

FIG. 1A

0.5 kb

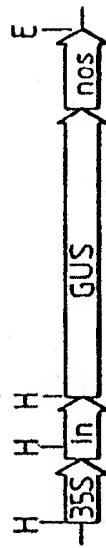


FIG. 1B

0.5 kb

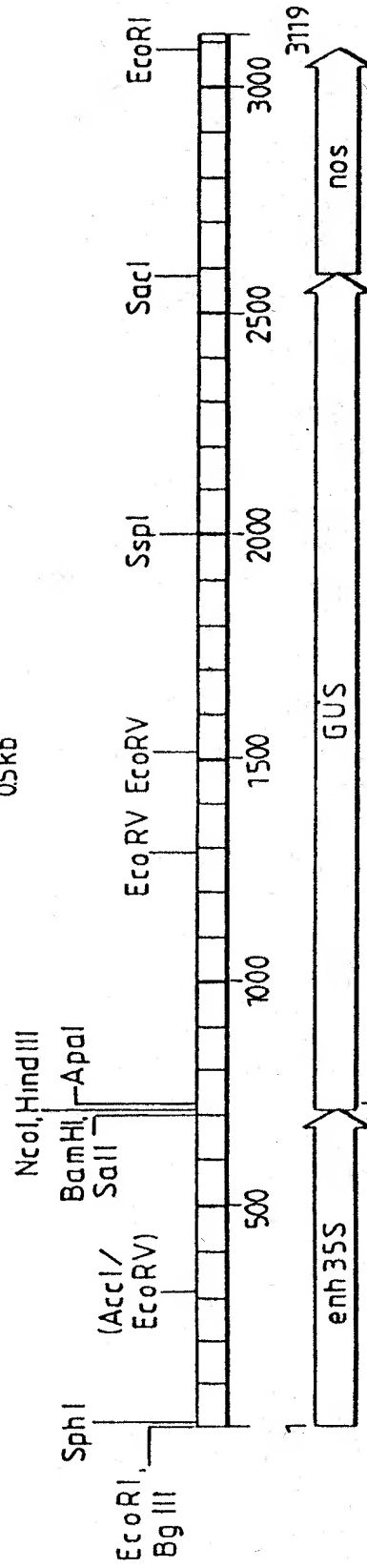


FIG. 1E

pGUS1 (pDPG141)...GAGGATCCGTCGACCATGGTAAGCTTAGCGGGCCCC...

BamHI SalI NcoI HindIII Apal

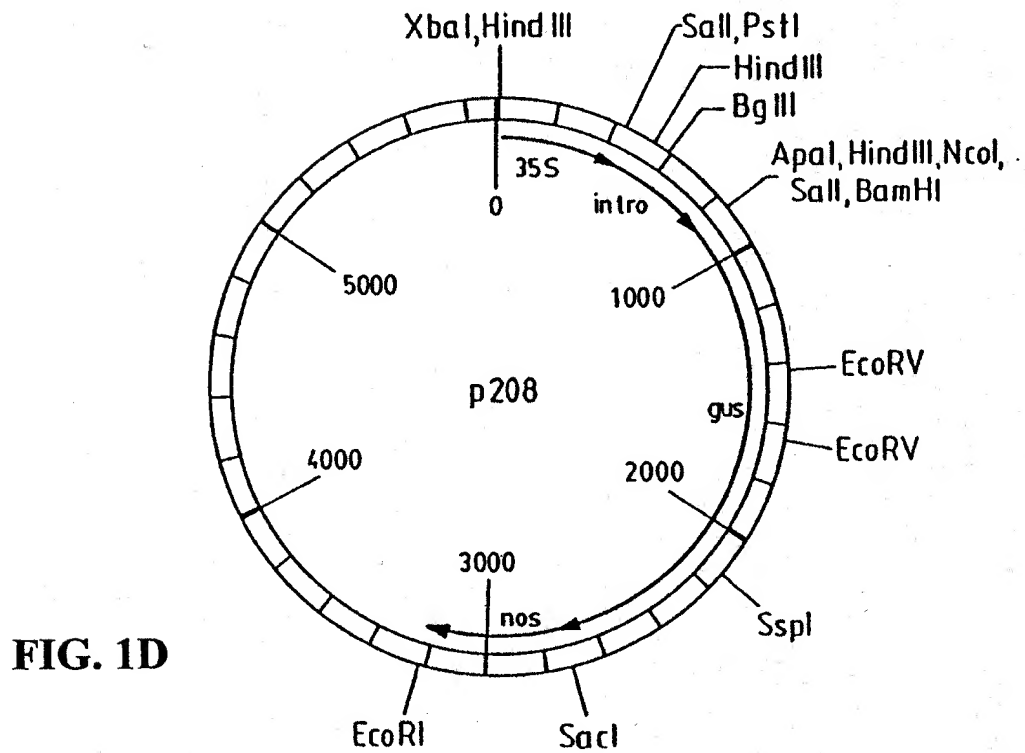
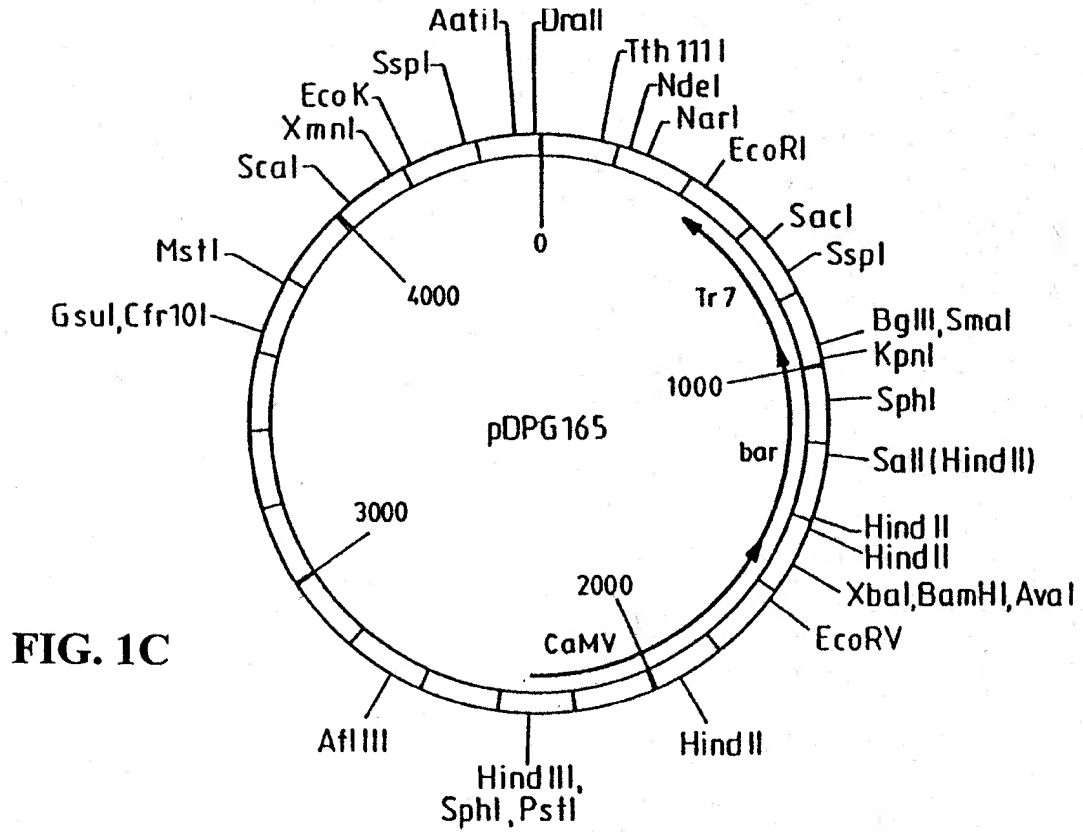


FIG. 1F

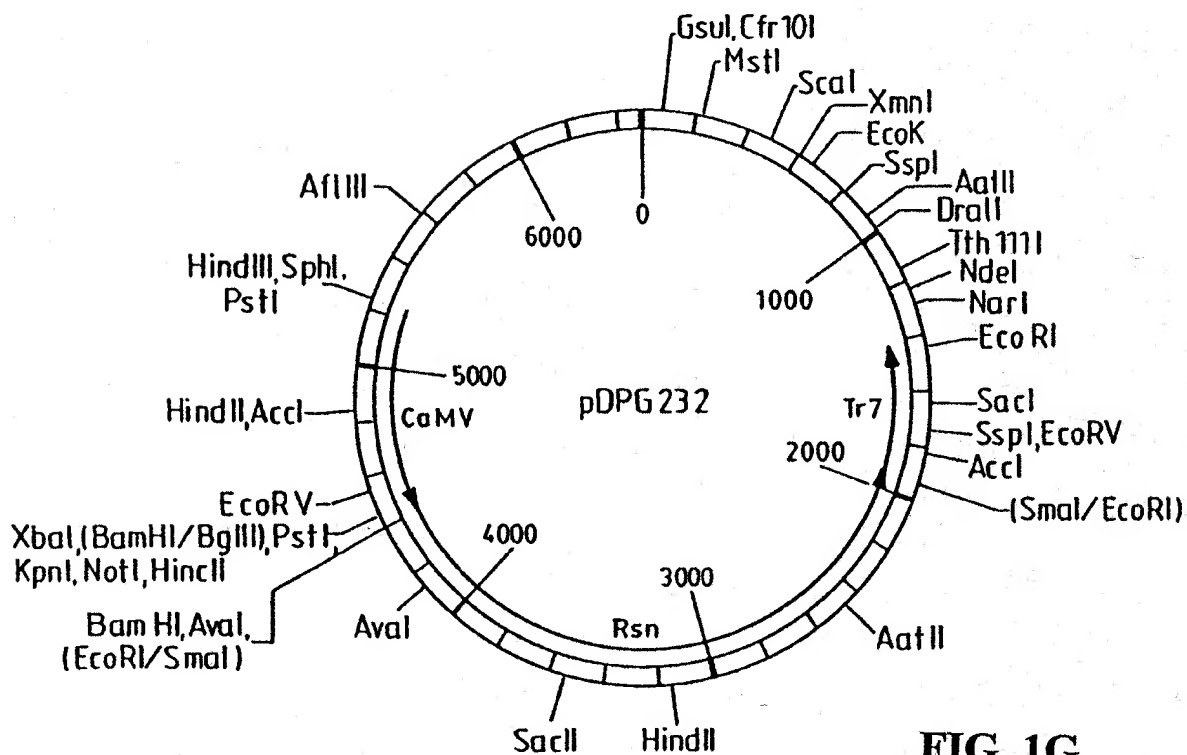
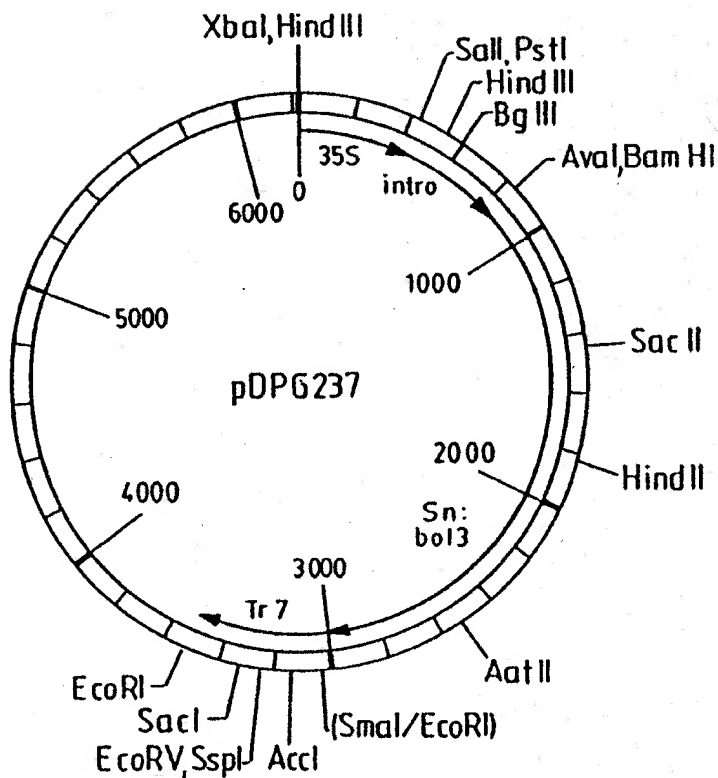


FIG. 1G

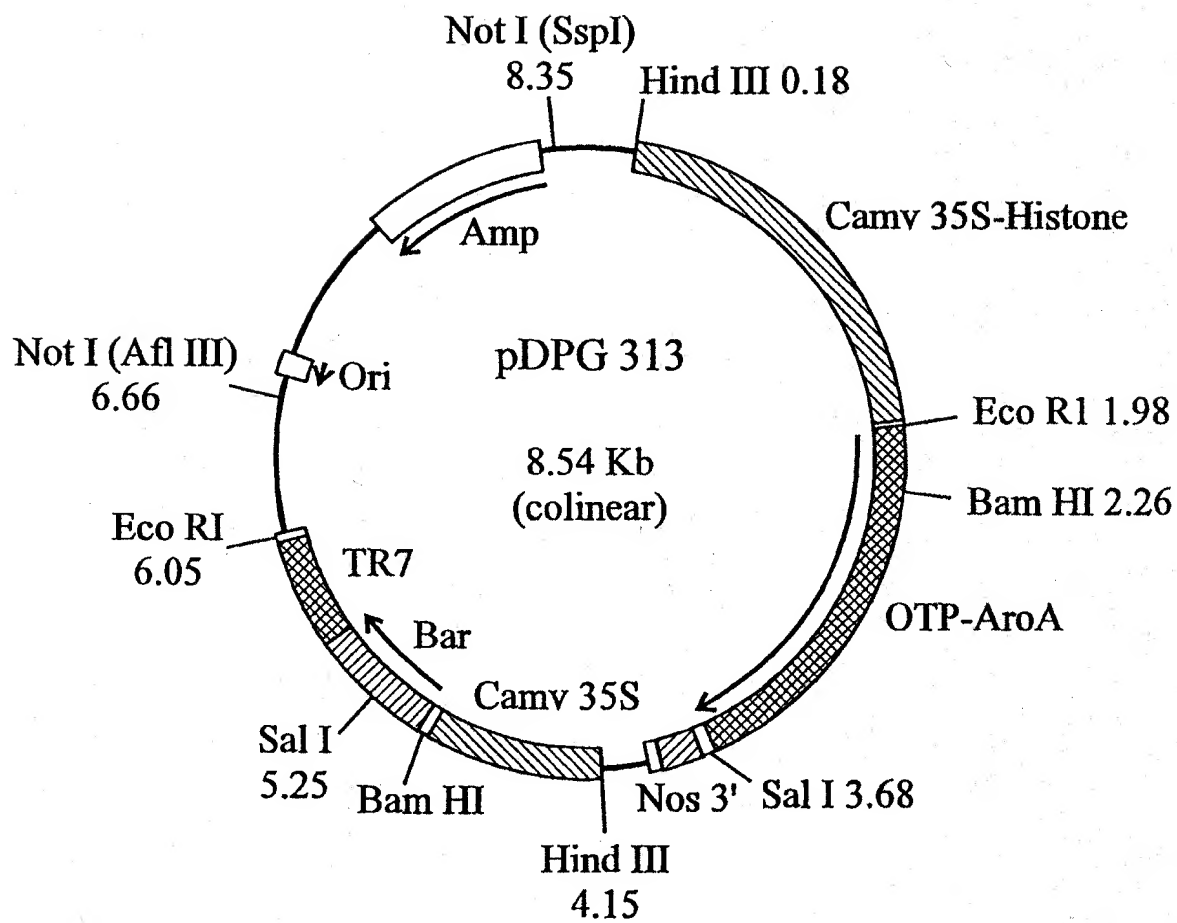


FIG. 1H

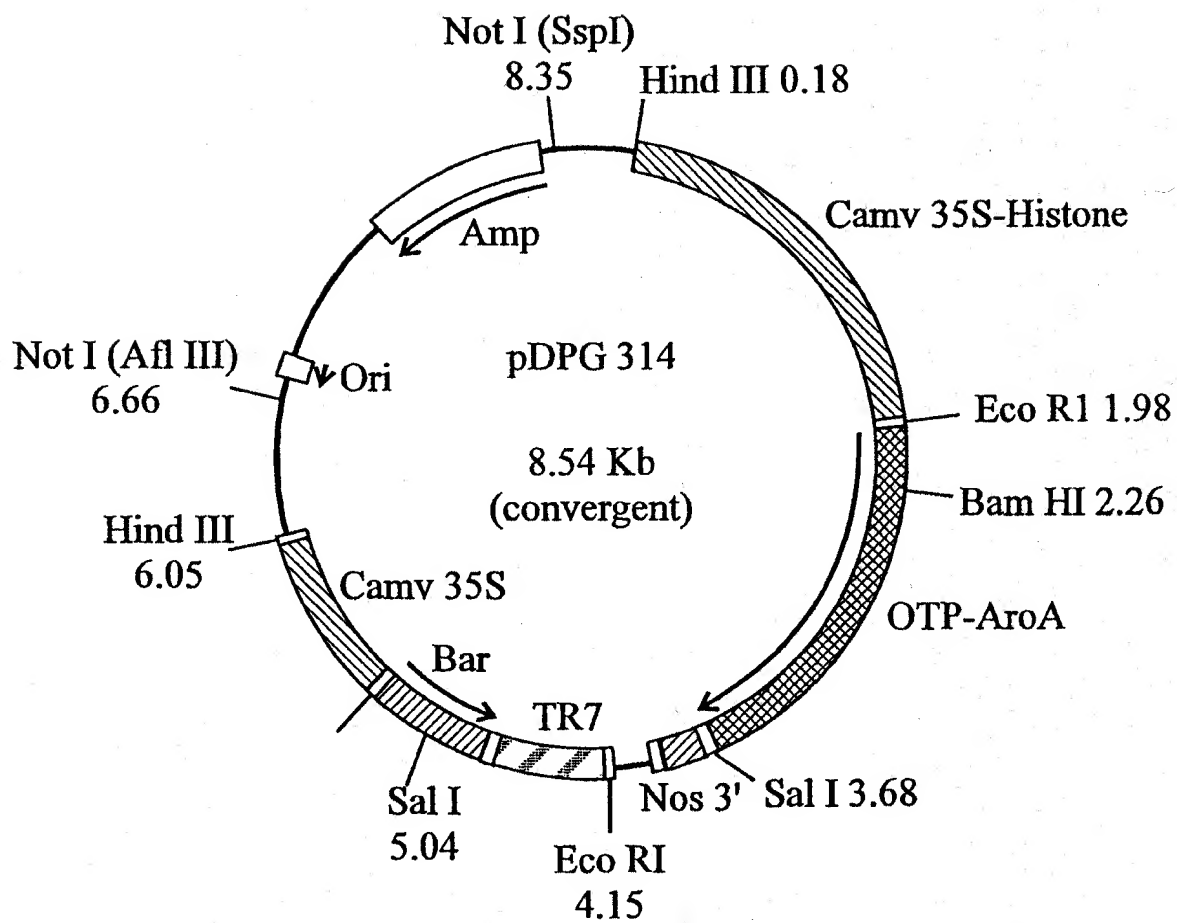


FIG. 11

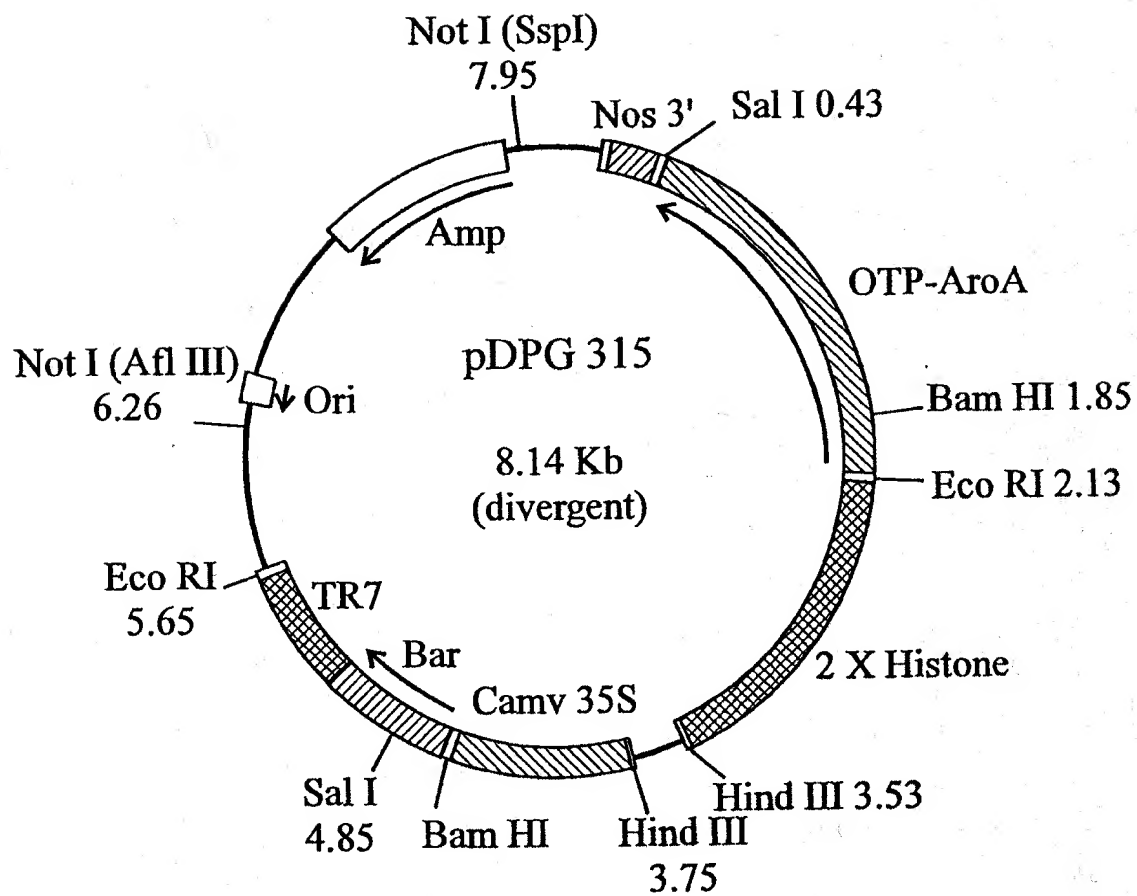


FIG. 1J

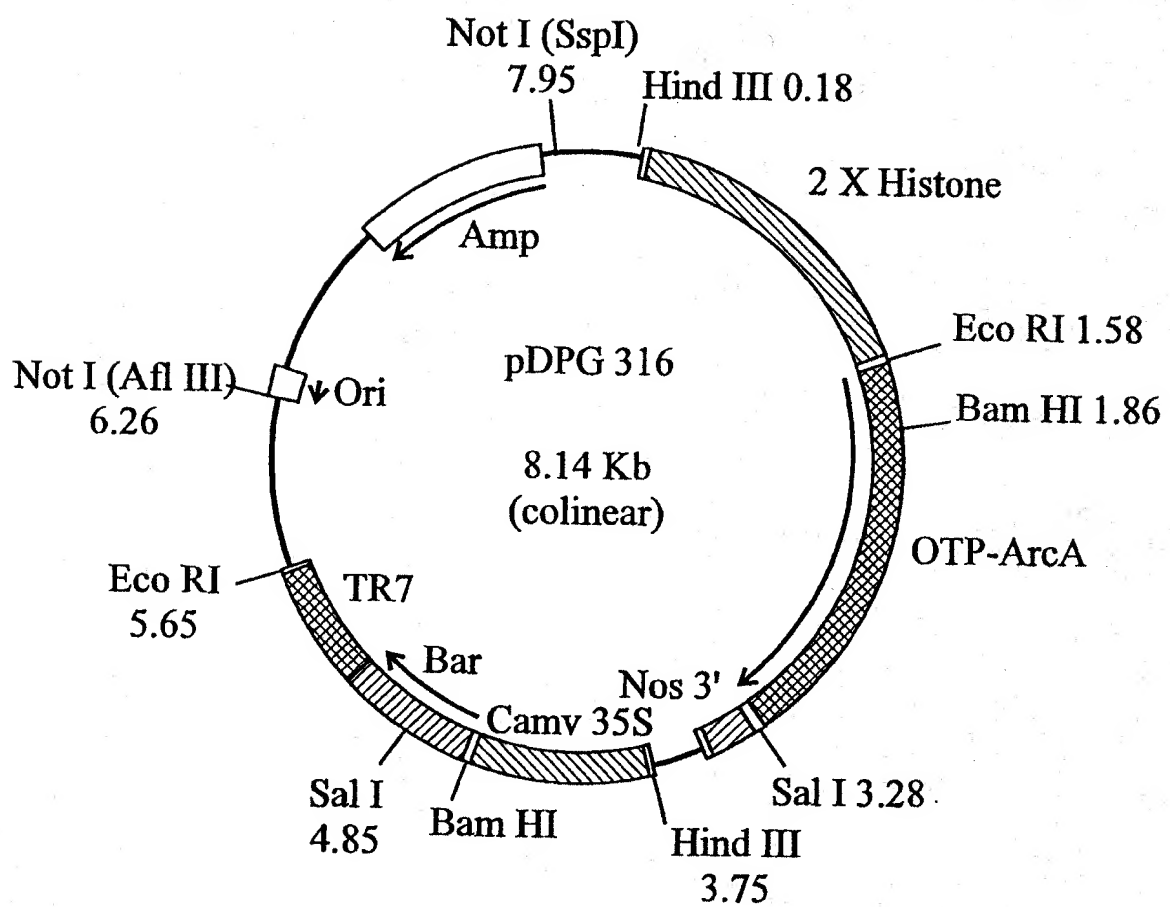


FIG. 1K

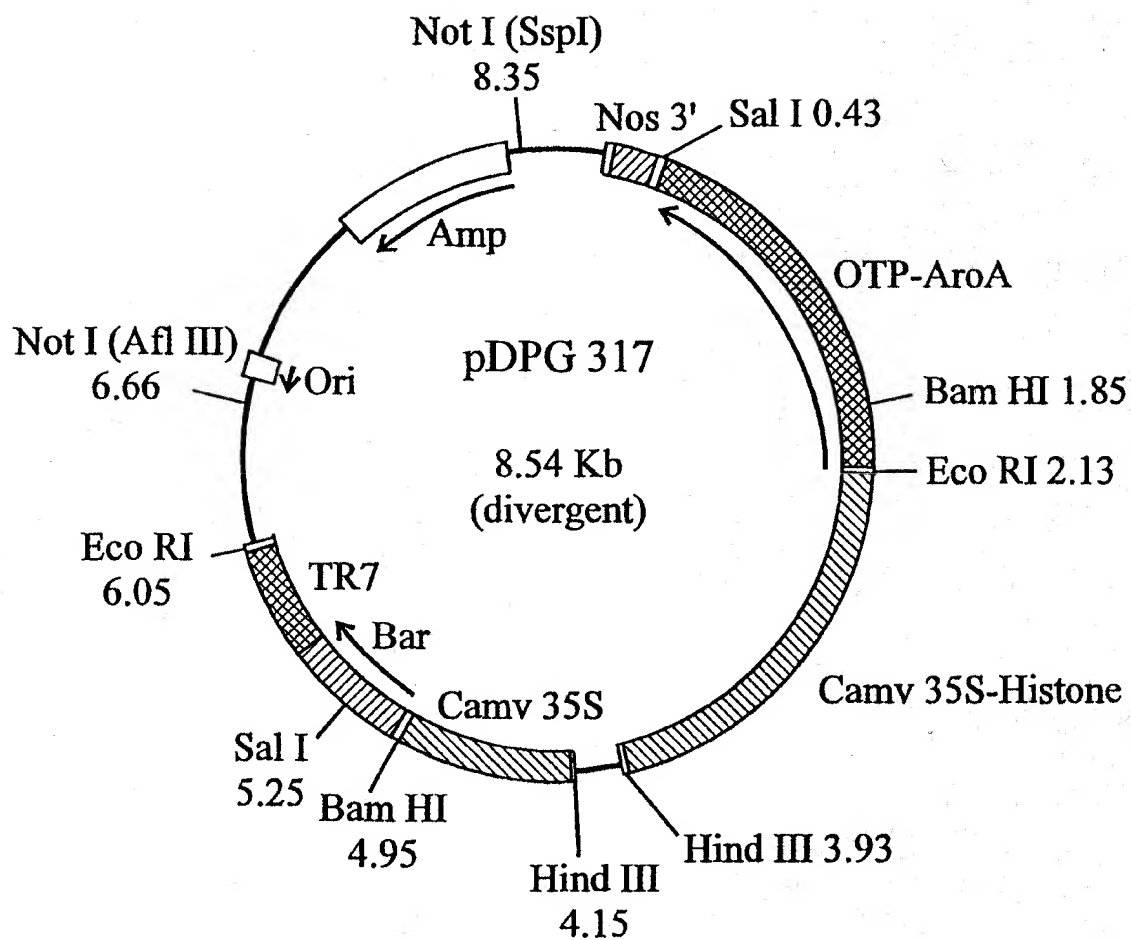
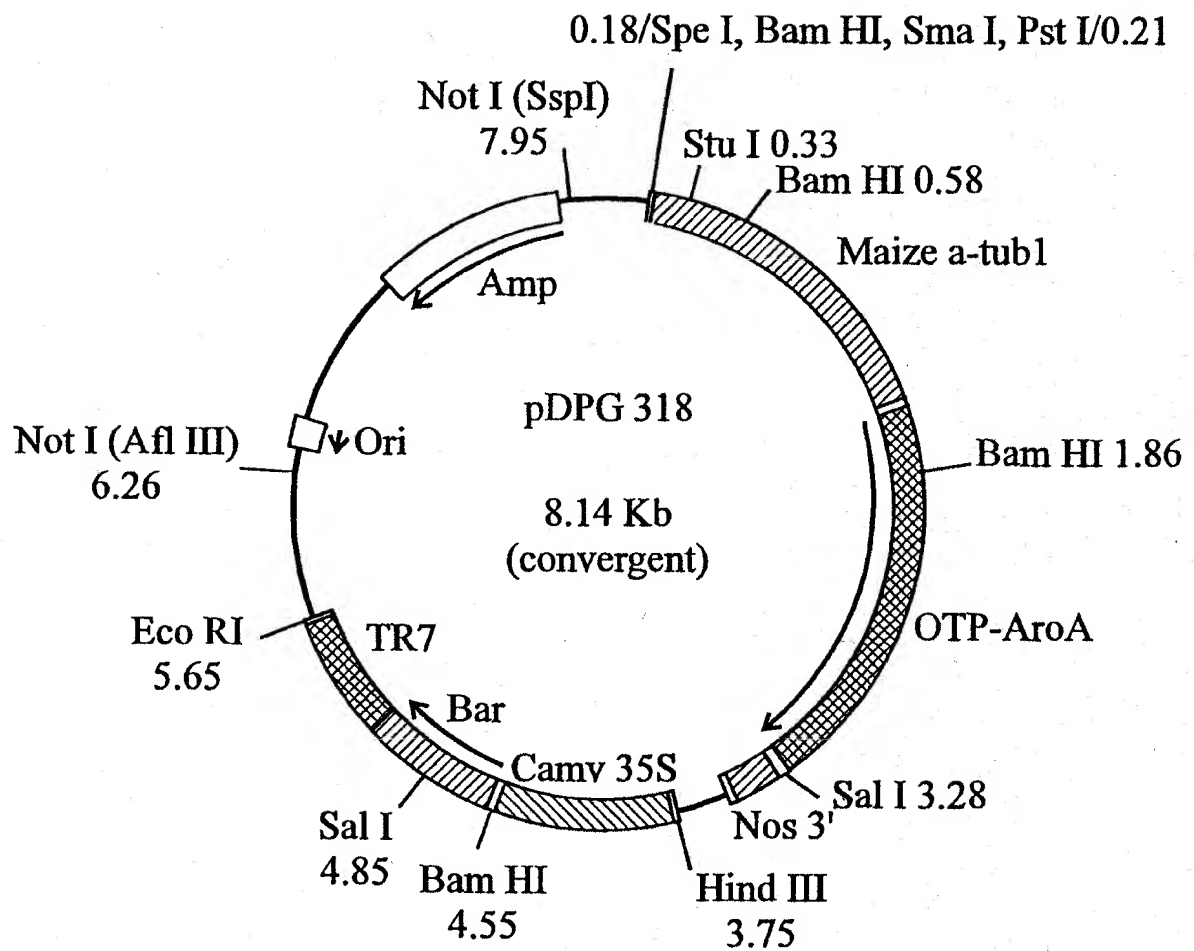


FIG. 1L





**FIG. 1M**

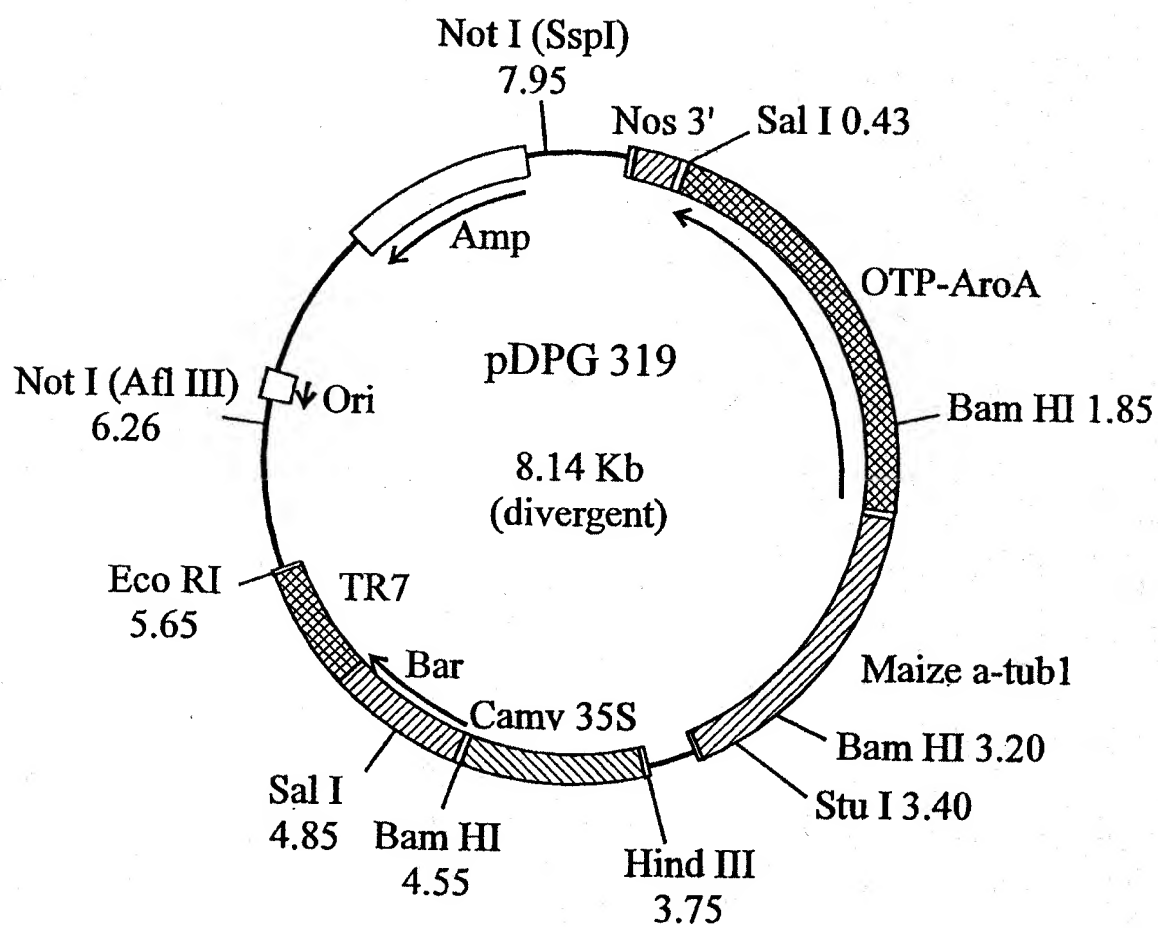


FIG. 1N

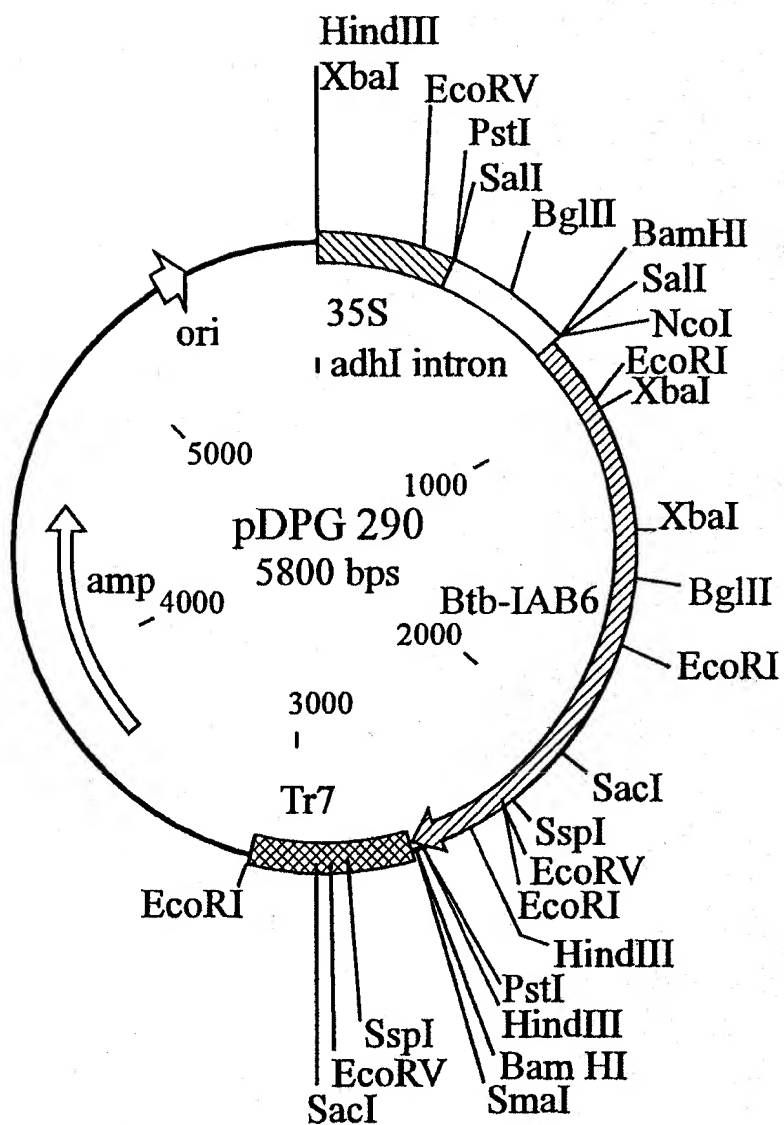


FIG. 10

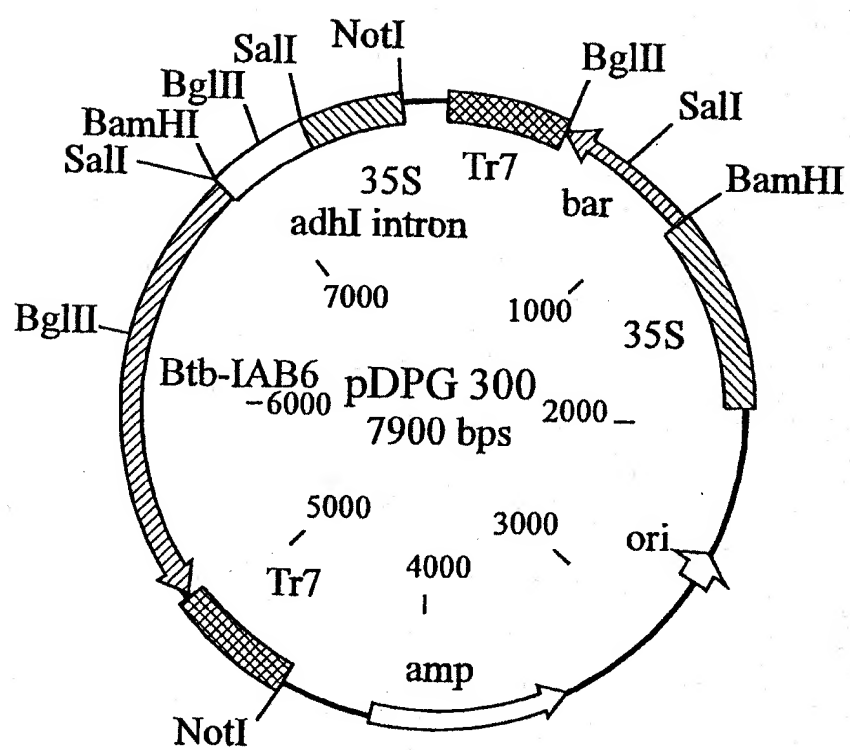


FIG. 1P

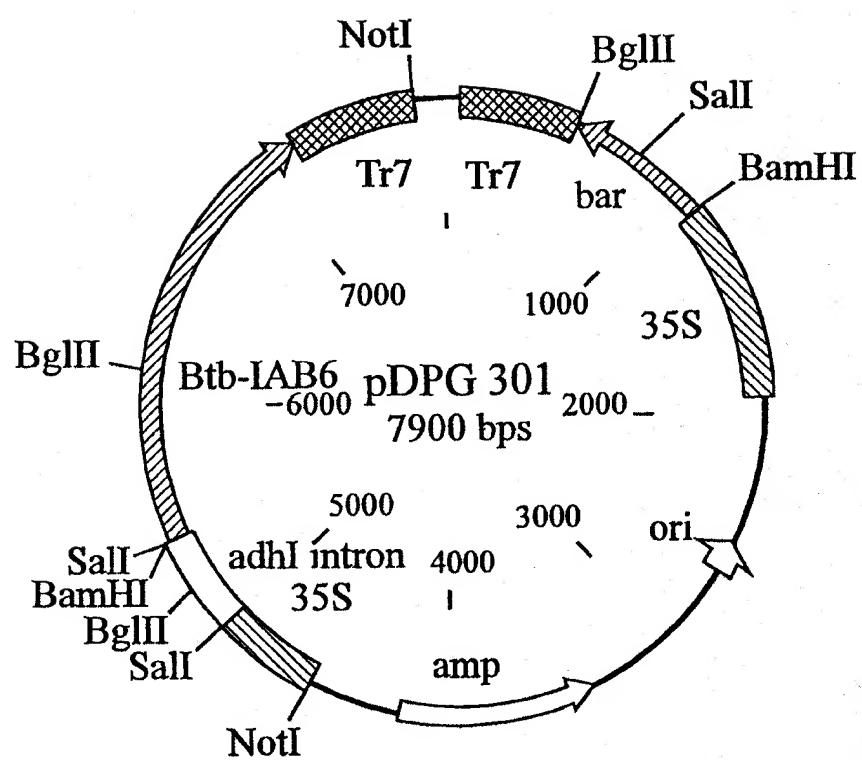


FIG. 1Q

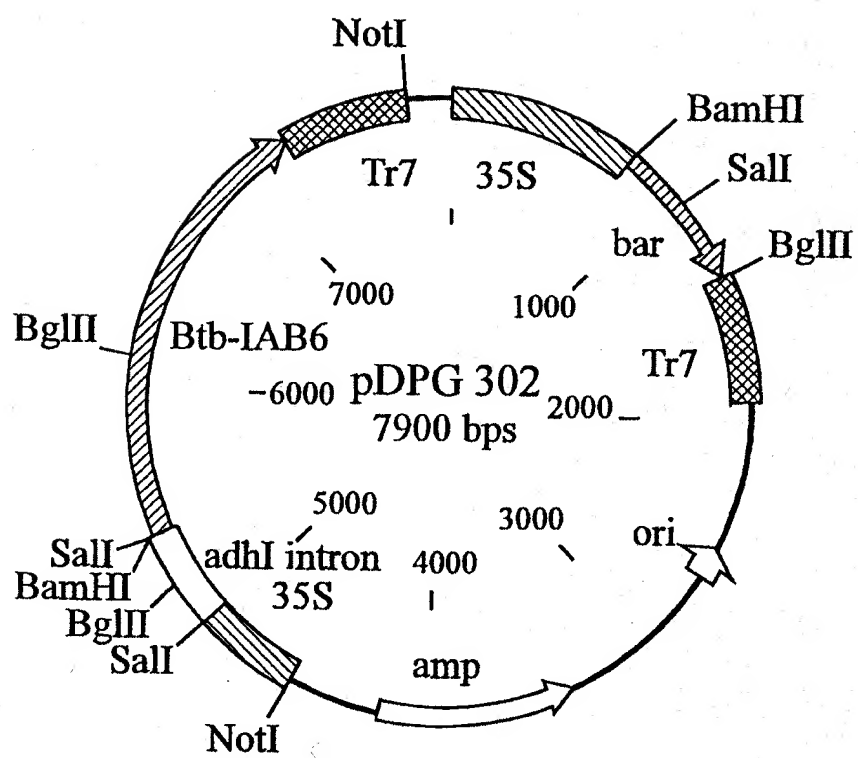


FIG. 1R

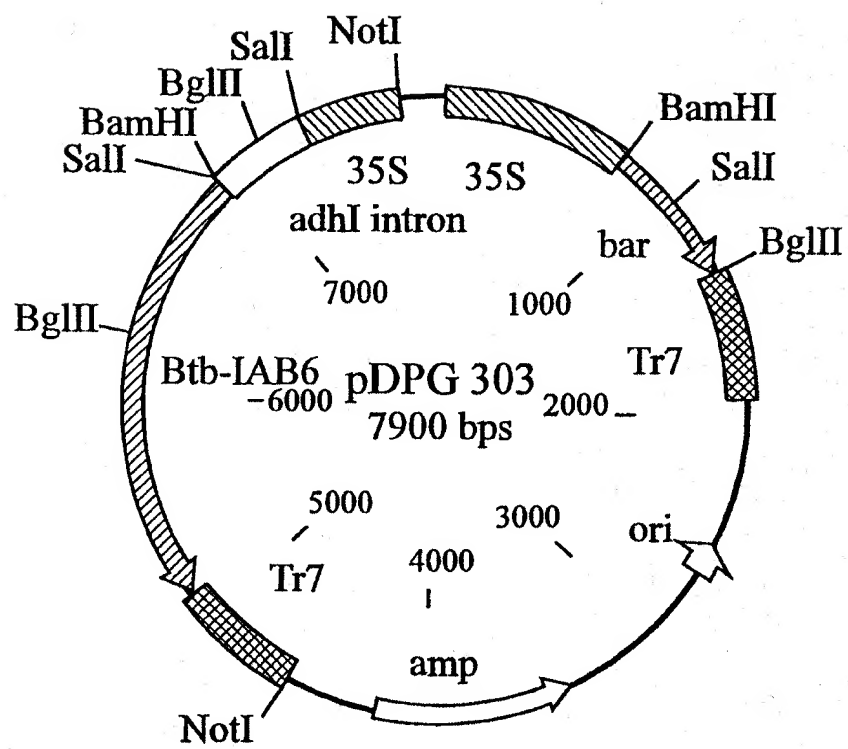


FIG. 1S

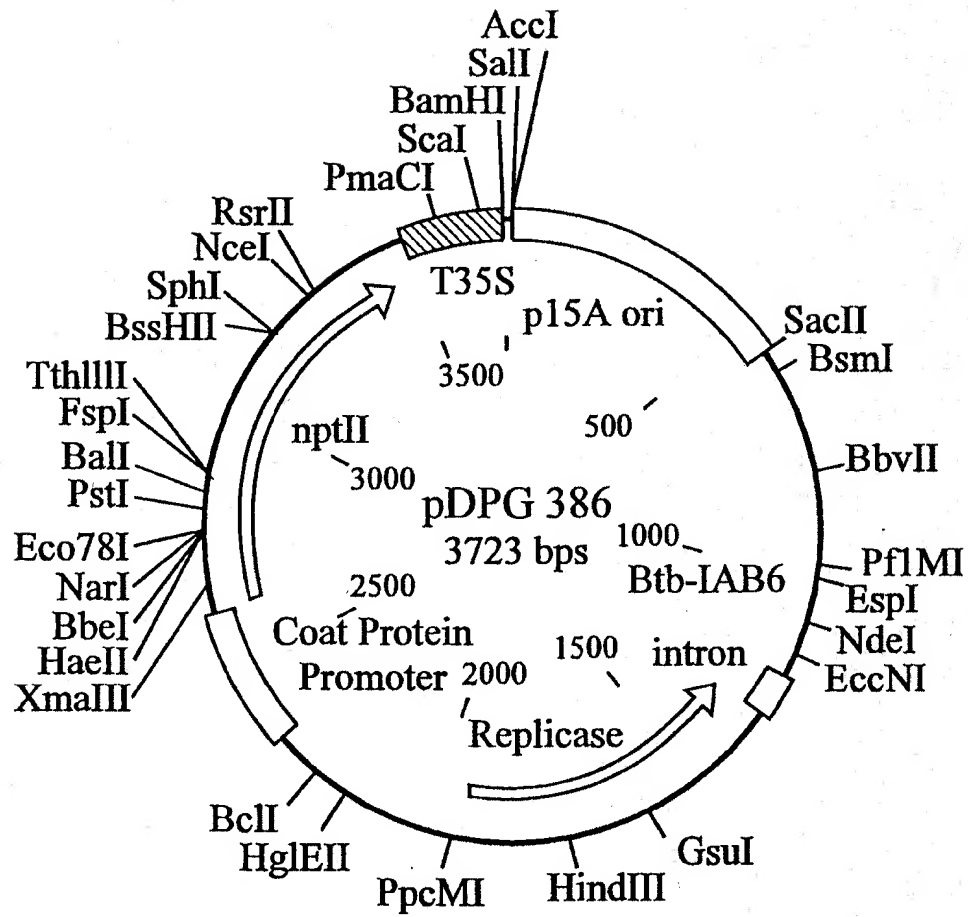


FIG. 1T



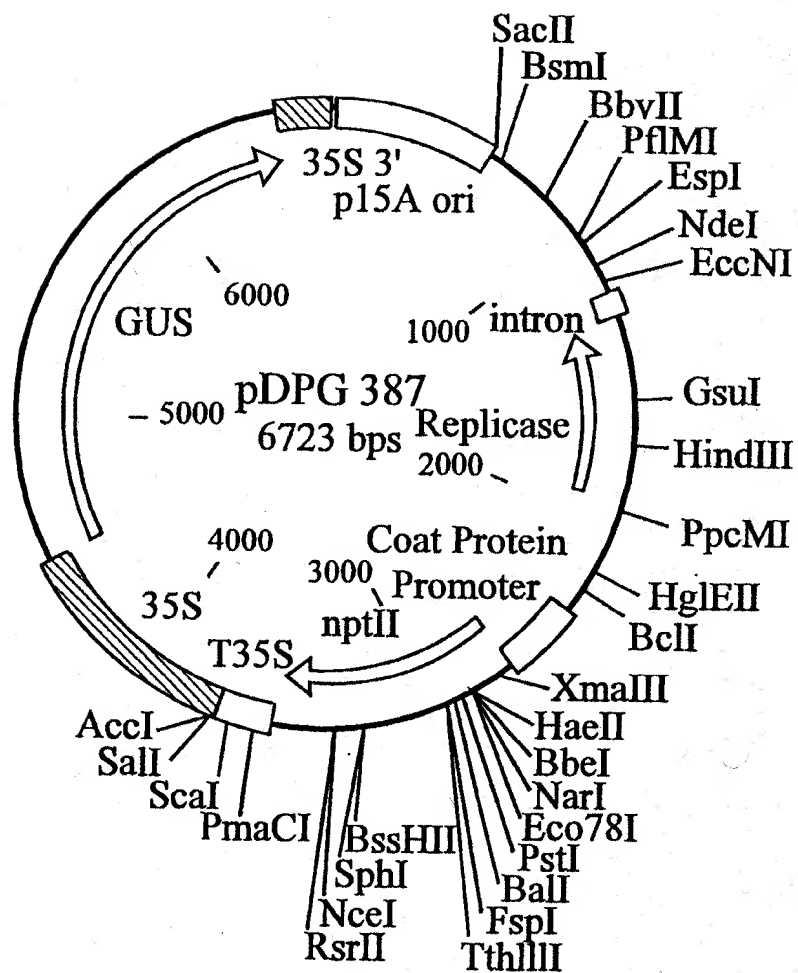


FIG. 1U

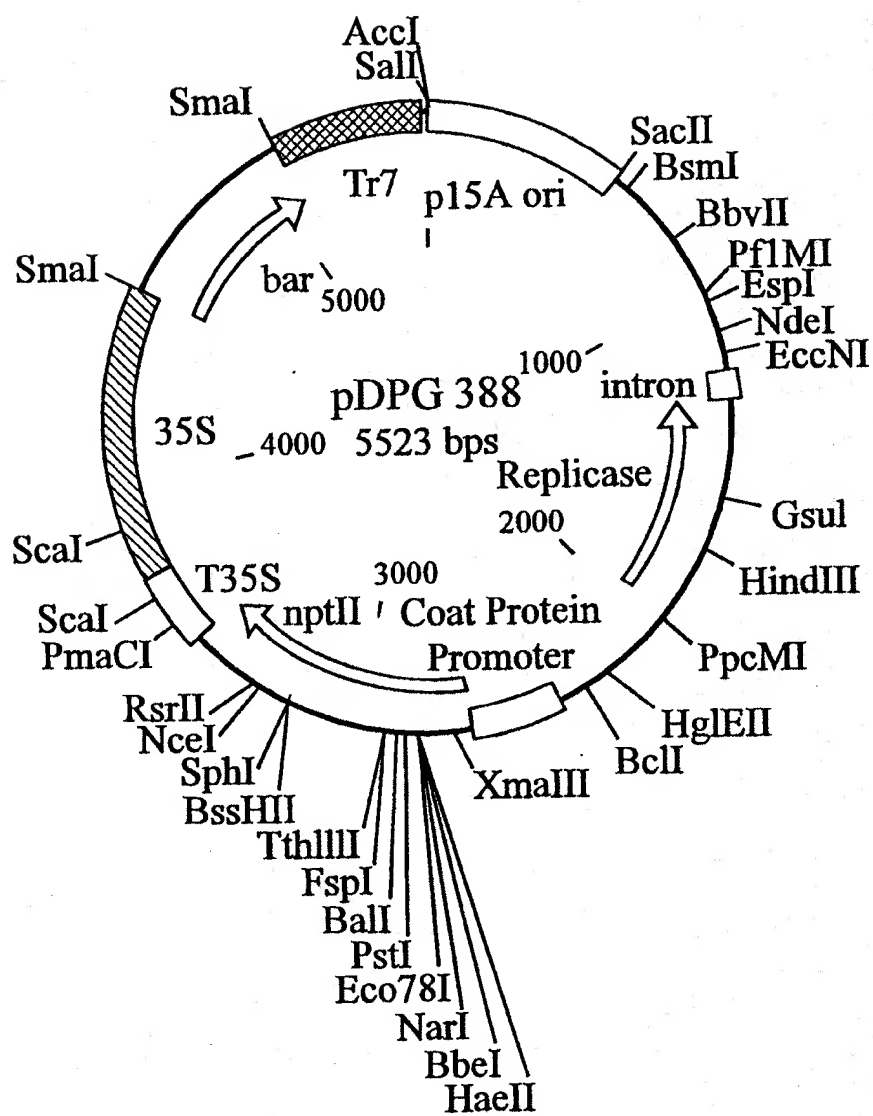


FIG. 1V

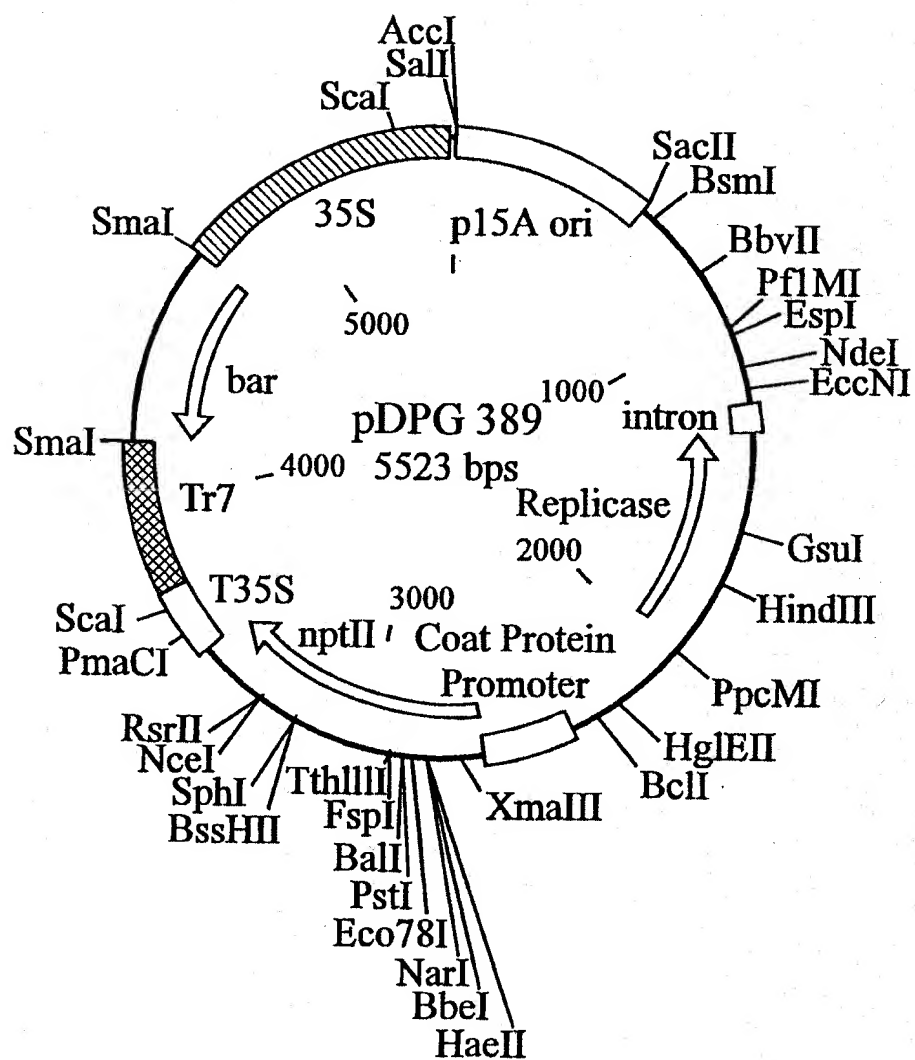
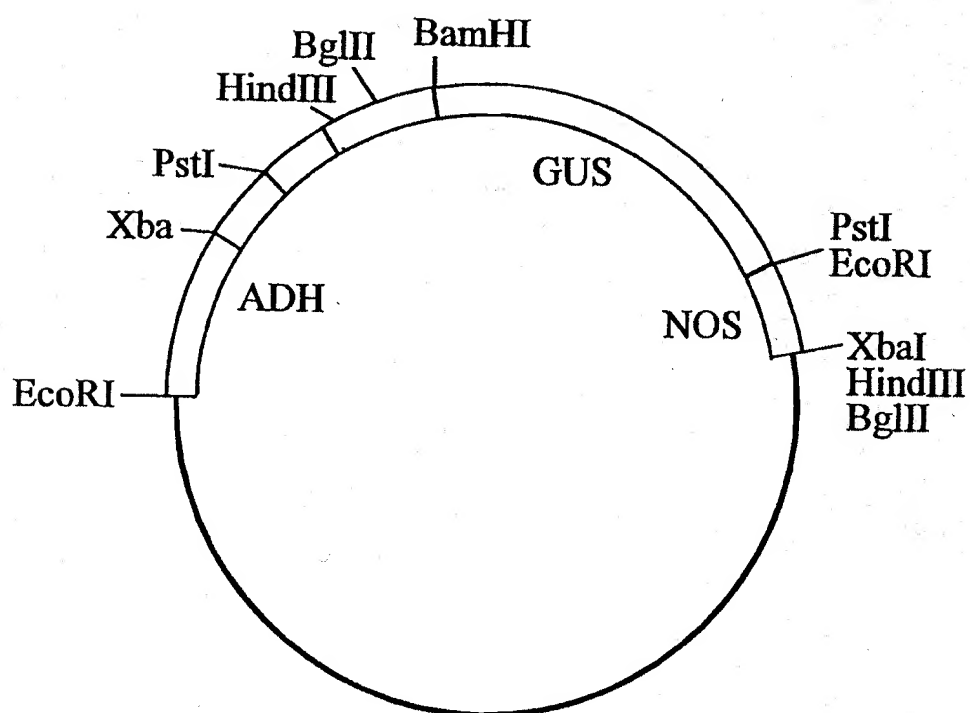


FIG. 1W



**FIG. 1X**

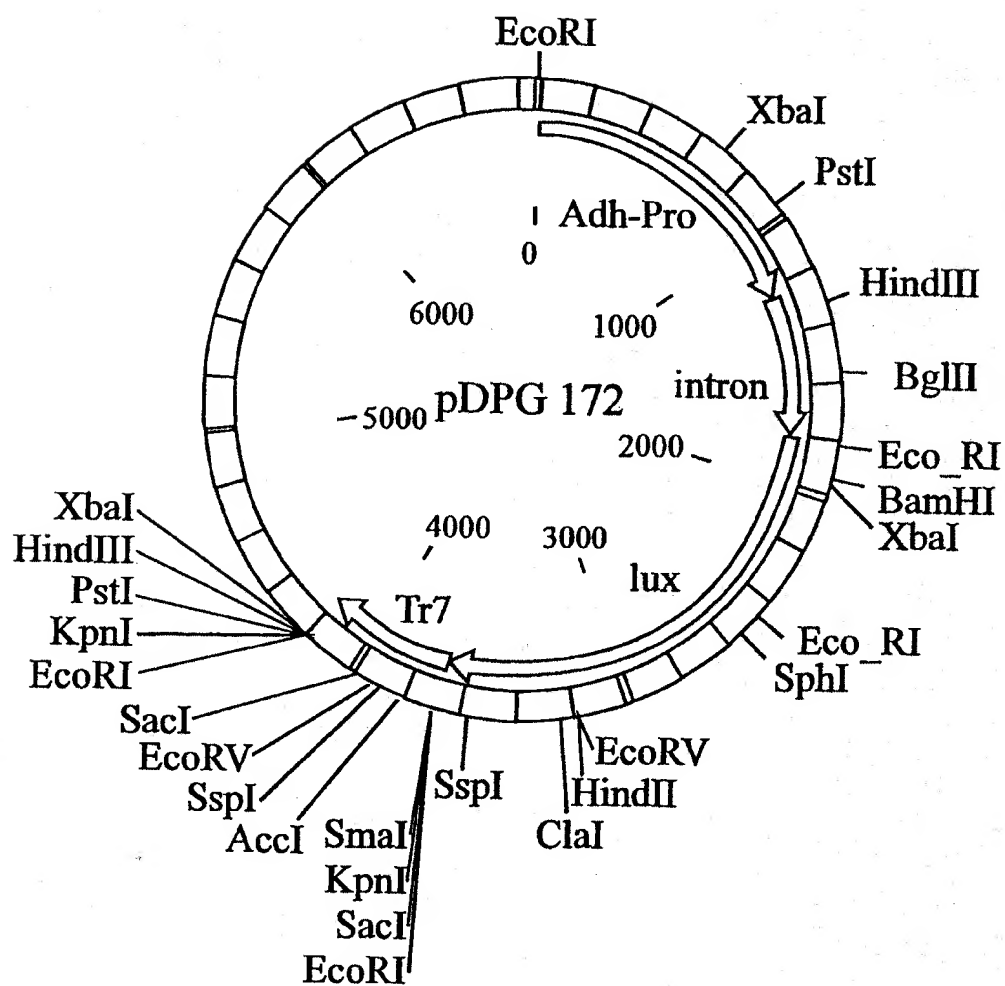


FIG. 1Y

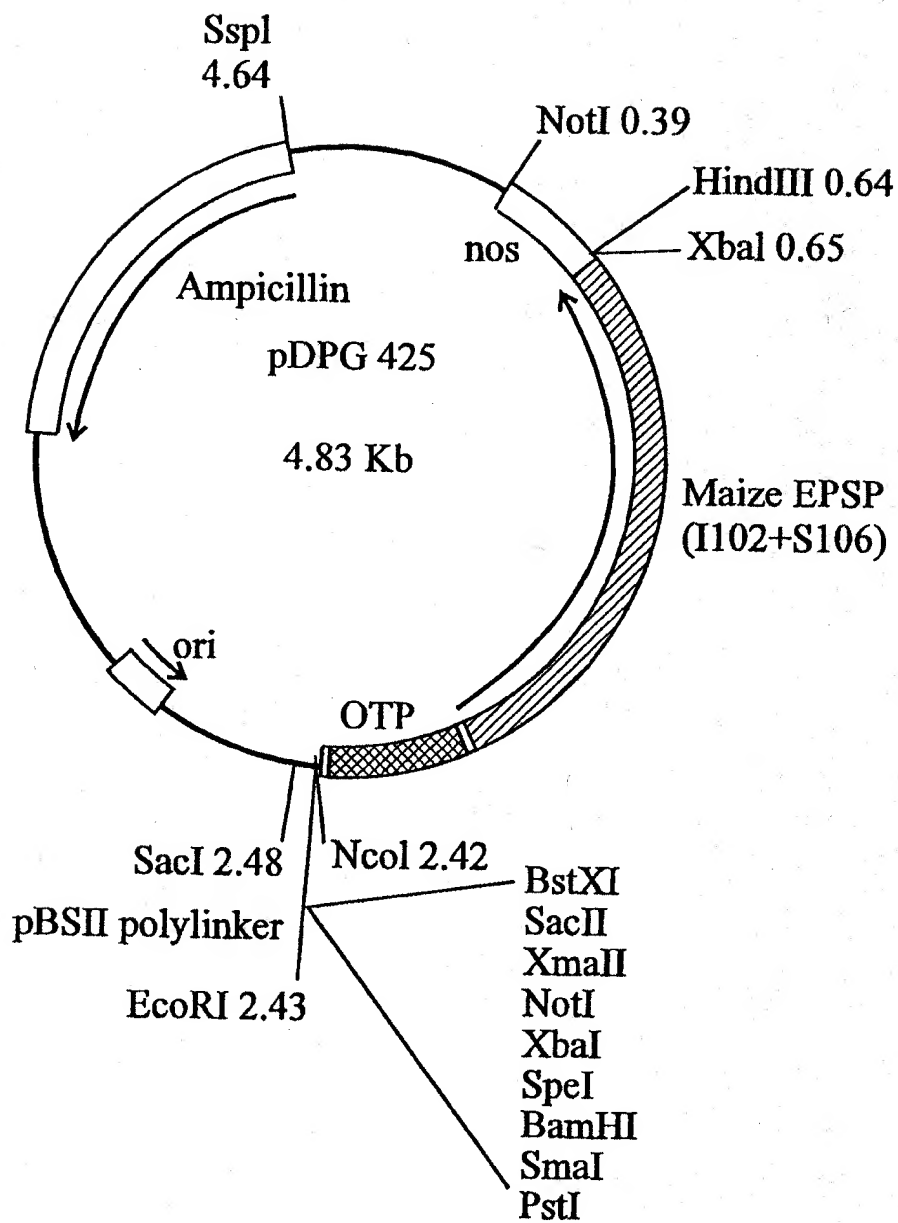


FIG. 1Z

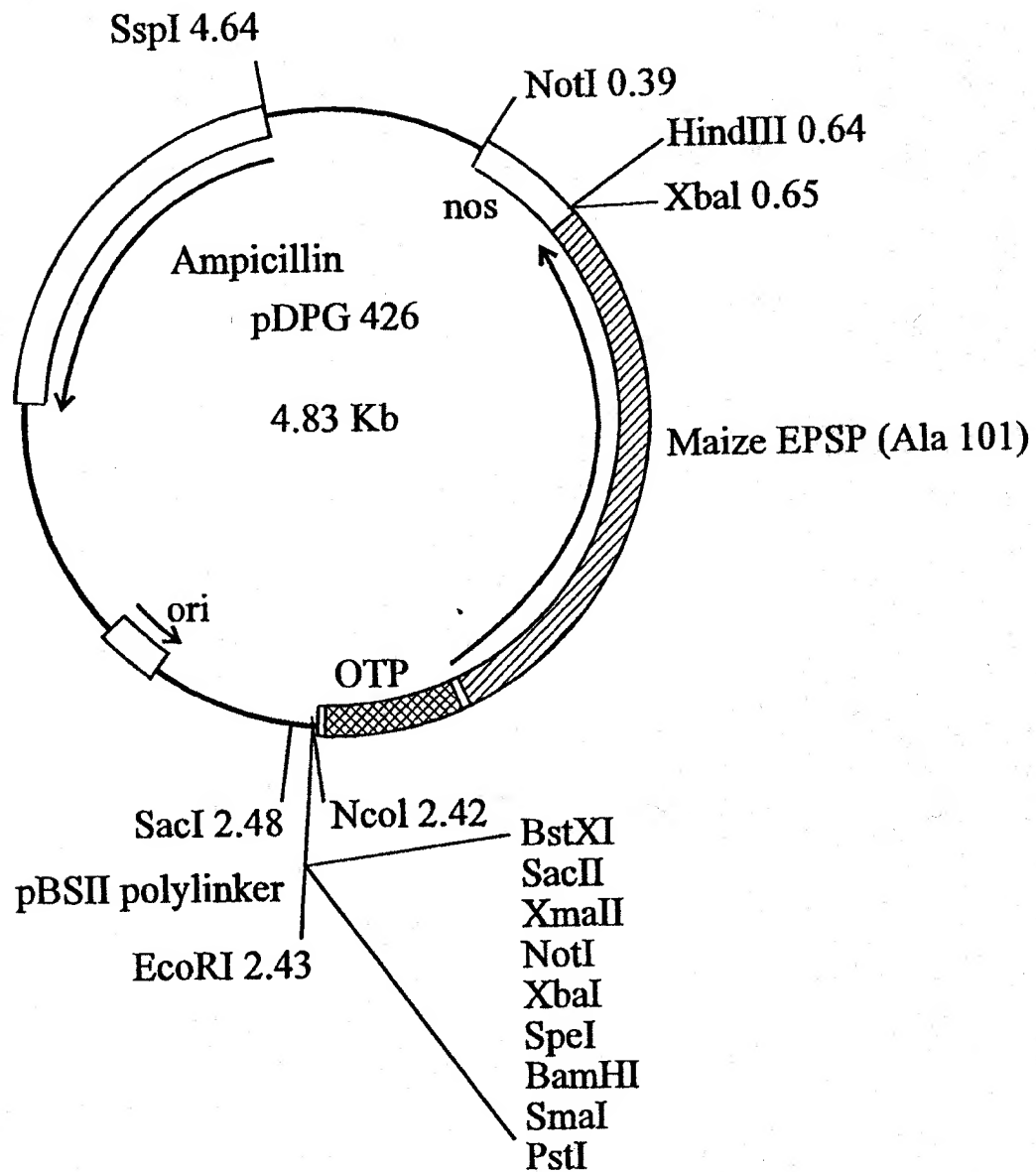
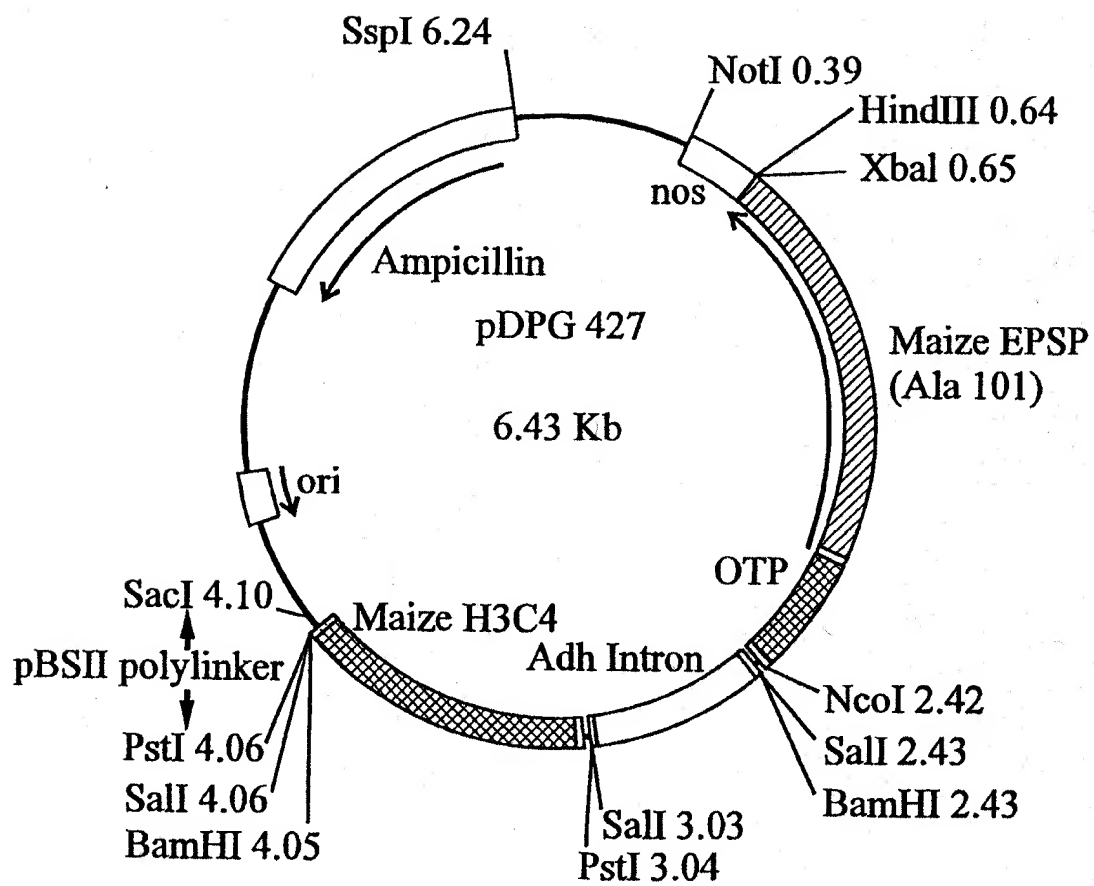


FIG. 1A-1



**FIG. 1B-1**



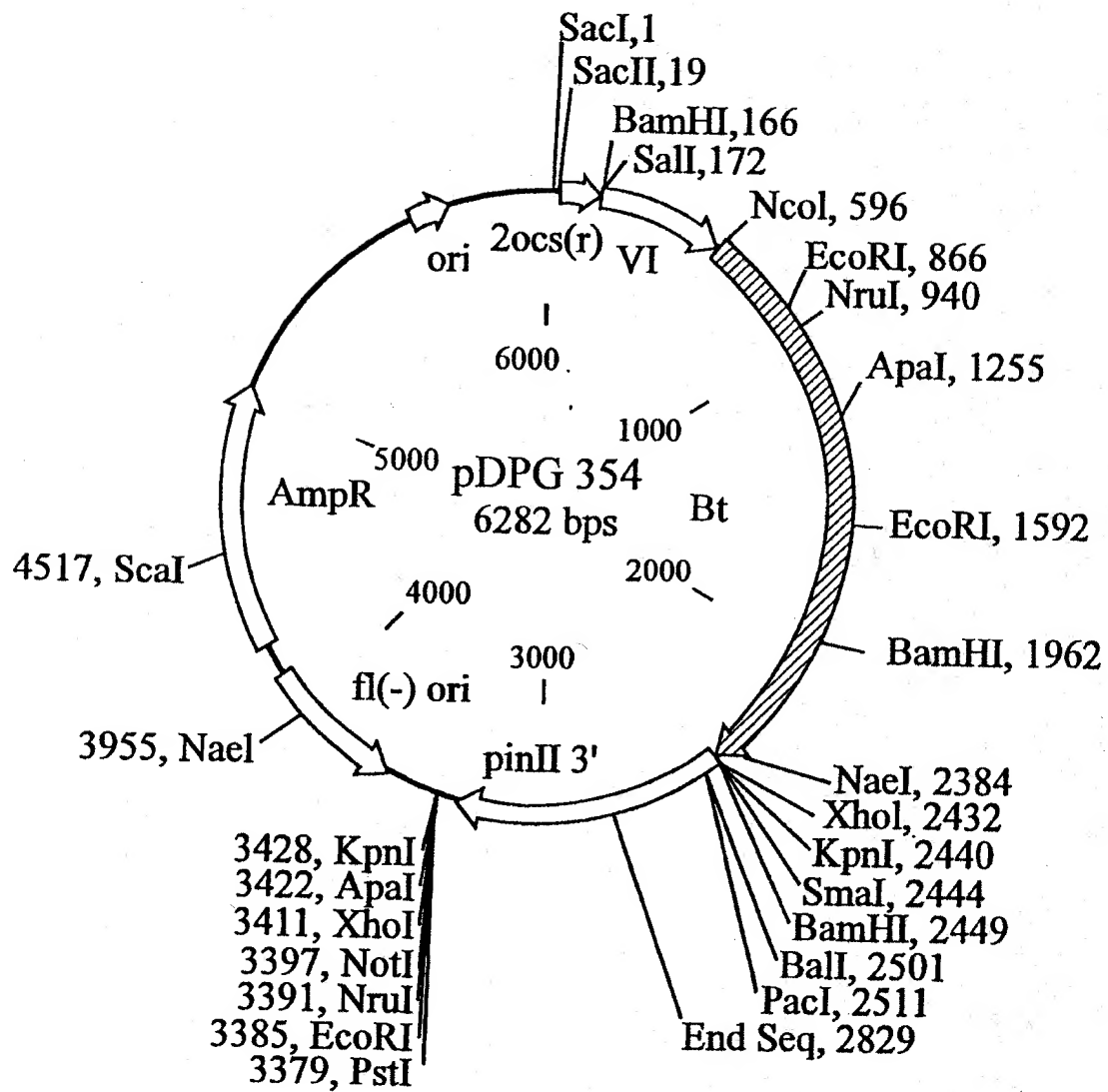


FIG. 1C-1

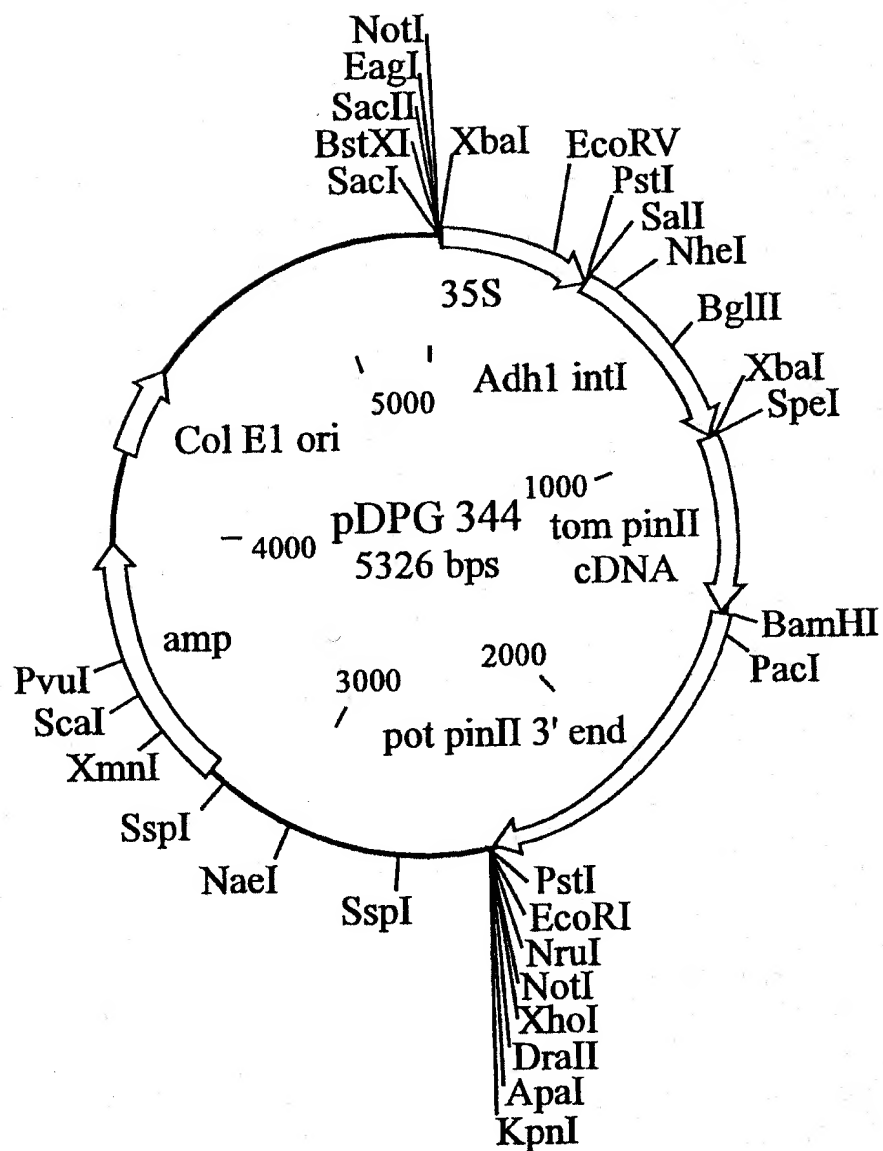
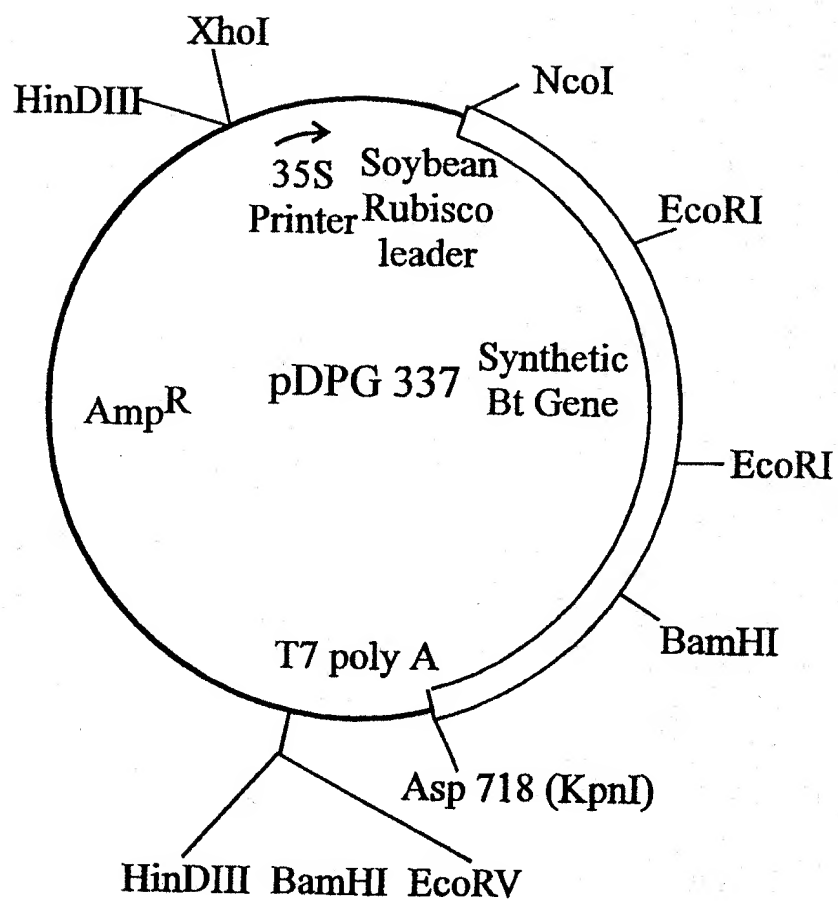
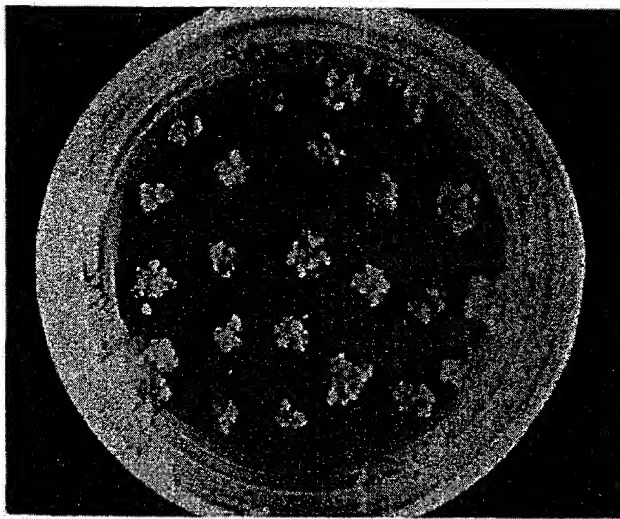


FIG. 1D-1



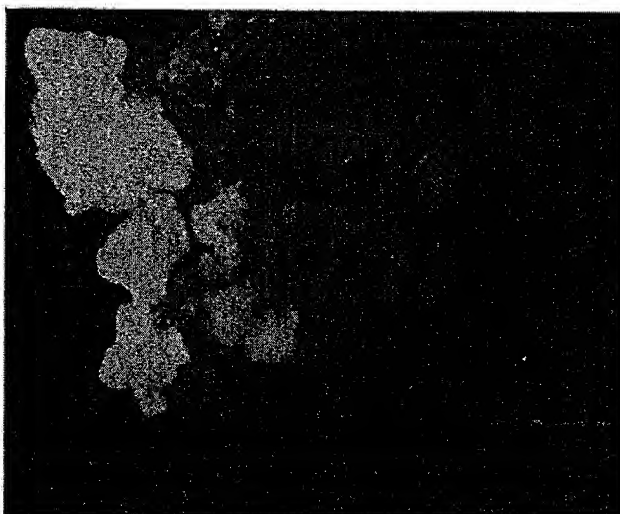
**FIG. 1E-1**



**FIG. 2A**



**FIG. 2B**



**FIG. 6**

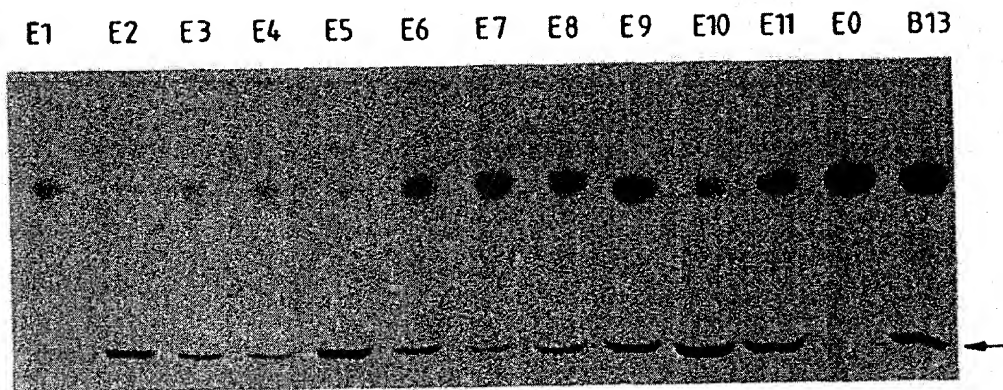


FIG. 3

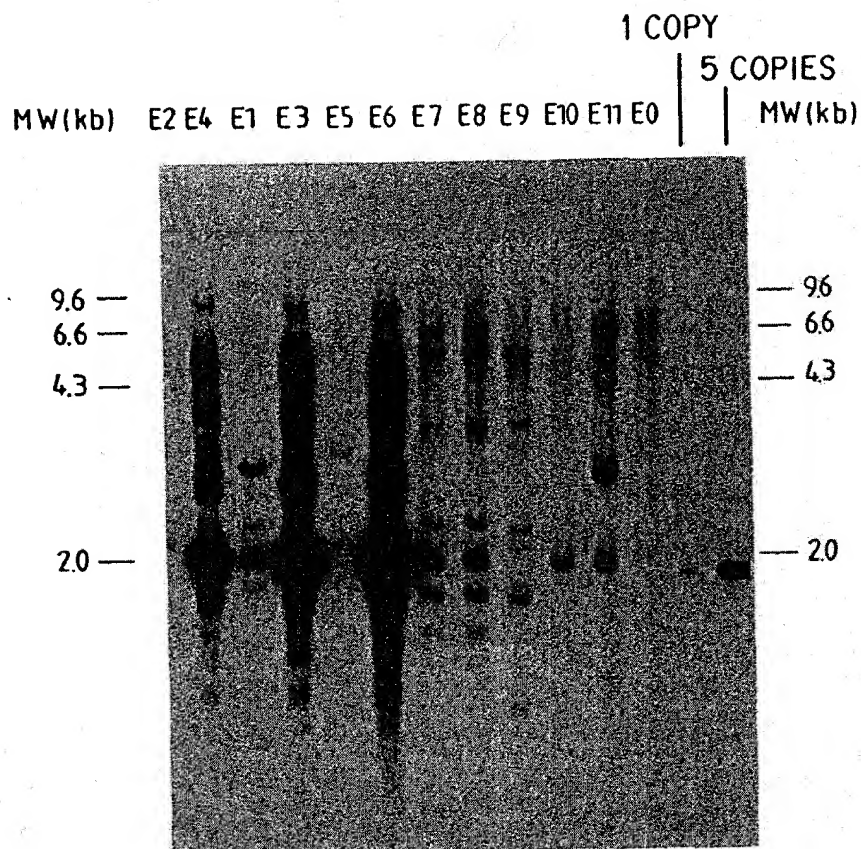


FIG. 4

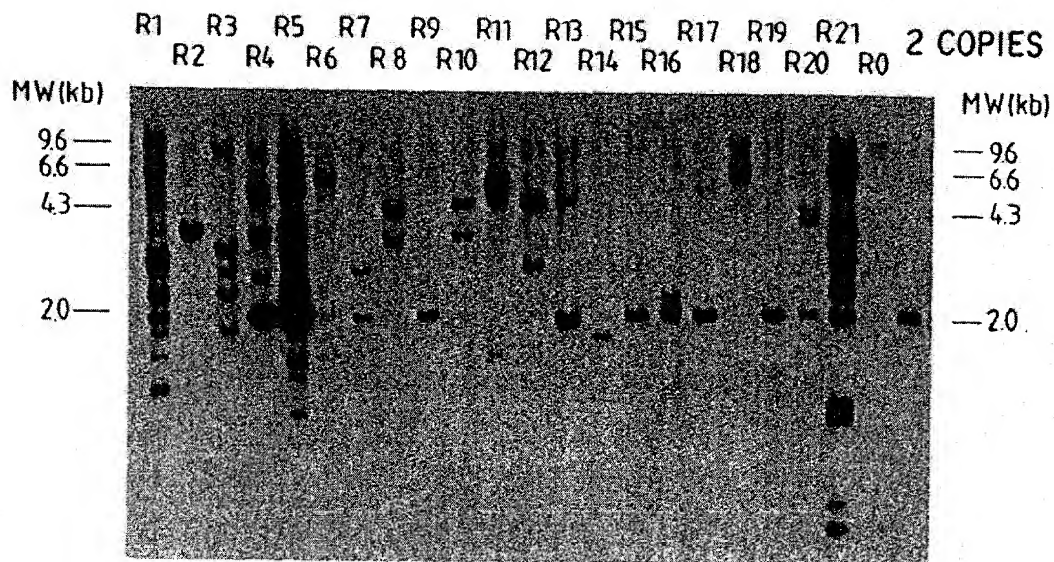


FIG. 5A

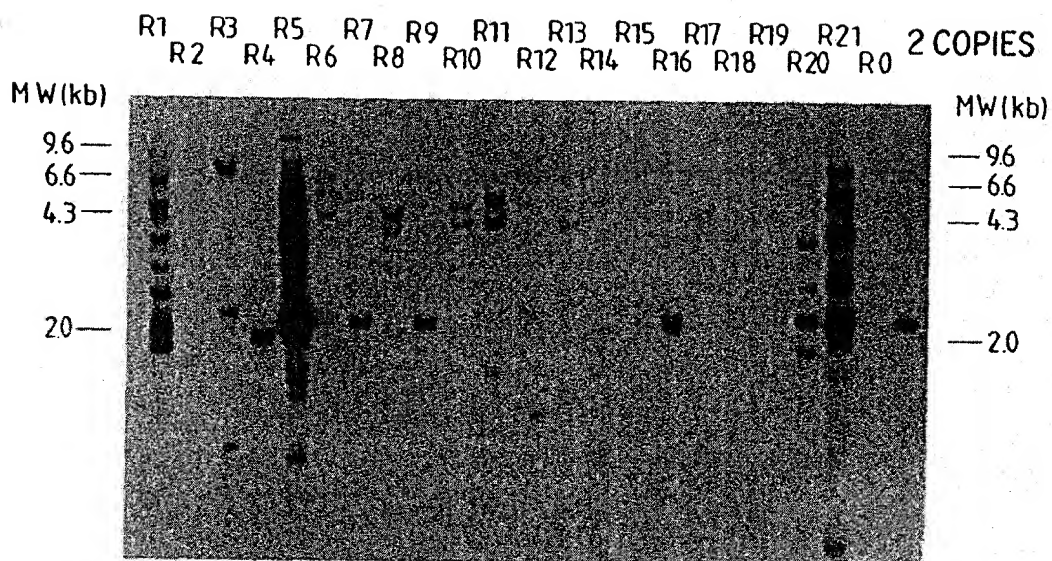
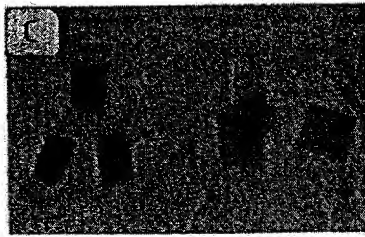
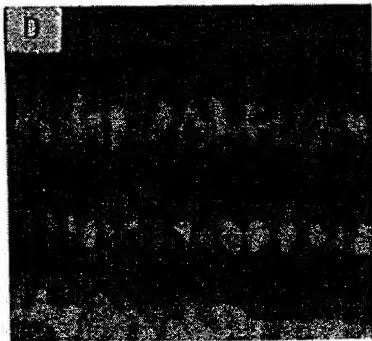


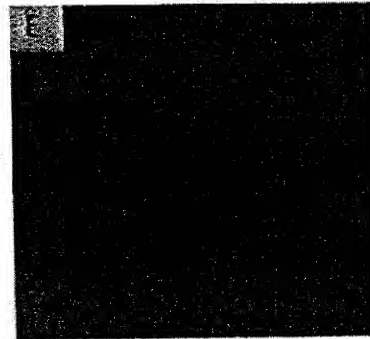
FIG. 5B



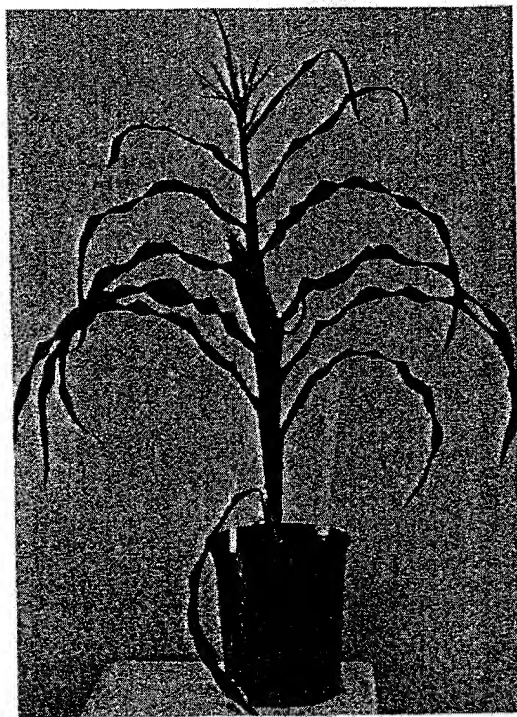
**FIG. 8C**



**FIG. 8D**



**FIG. 8E**



**FIG. 7A**



**FIG. 7B**

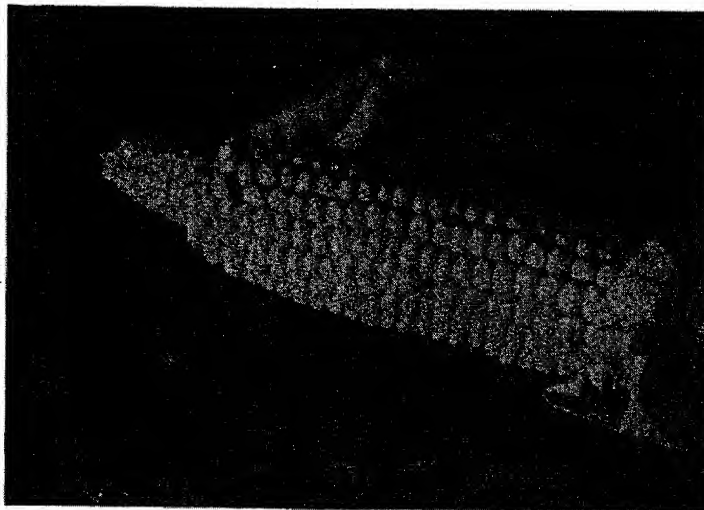


FIG. 7C

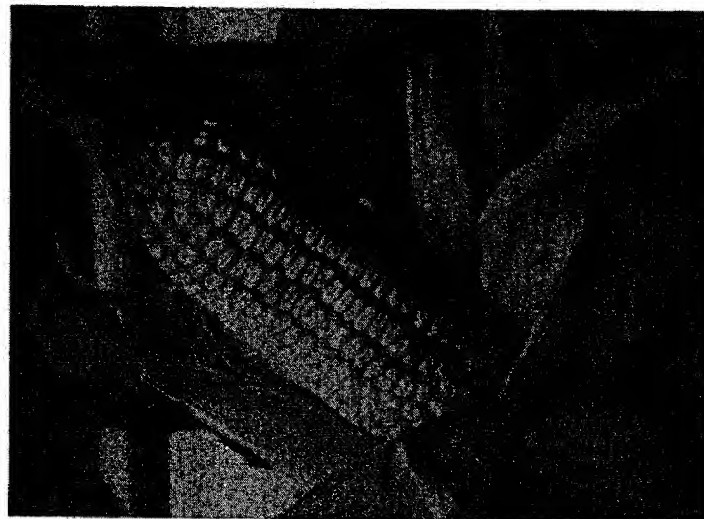
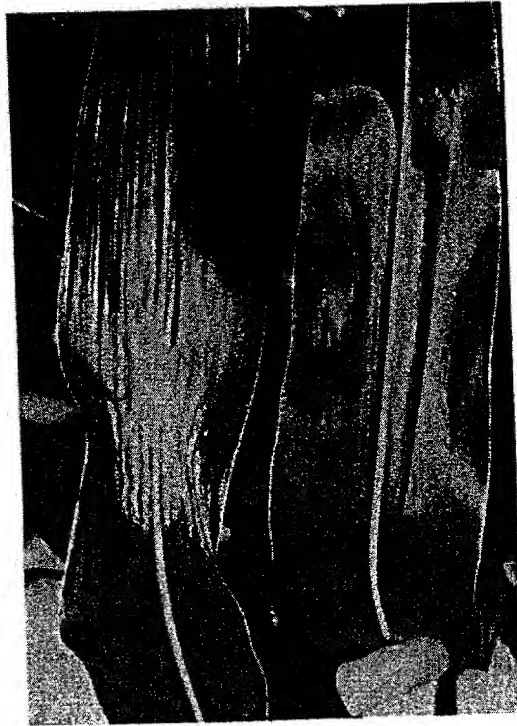


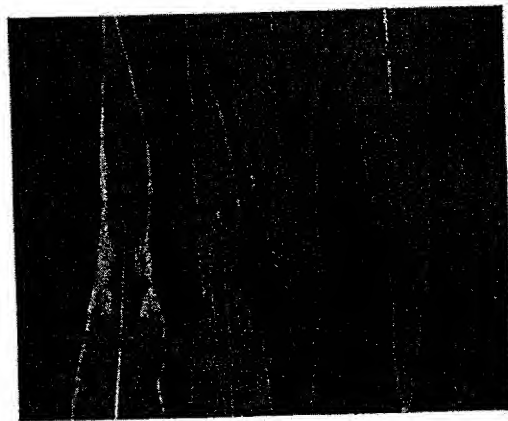
FIG. 7D



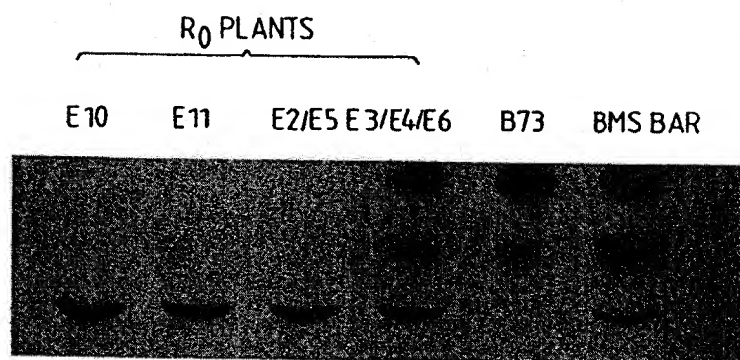
Replacement Sheet



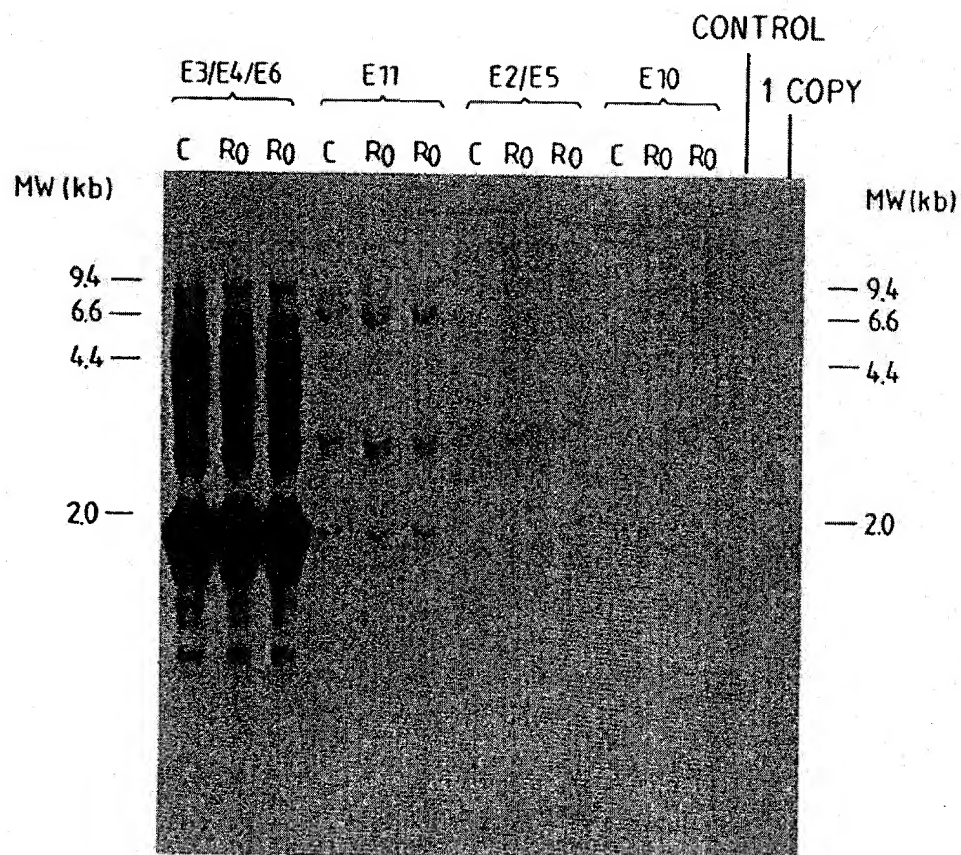
**FIG. 8A**



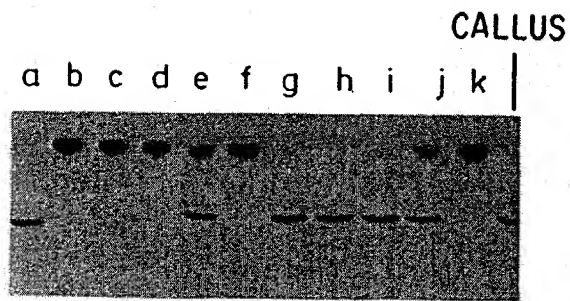
**FIG. 8B**



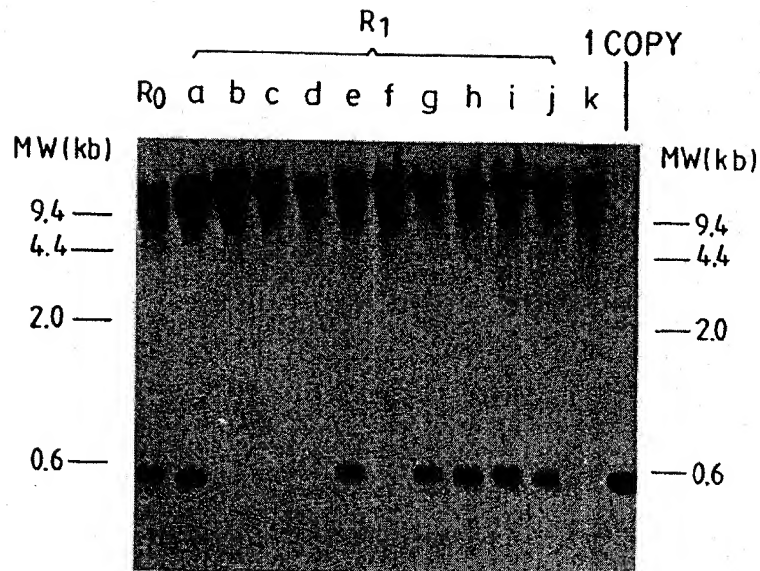
**FIG. 9**



**FIG. 10**



**FIG. 11A**



**FIG. 11B**

1/1  
 ATG GAT AAC AAT CCG AAC ATC AAT GAA TGC ATT CCT tac AAT TGC CTC AGC AAC CCT GAA  
 Met asp asn pro asn ile ile asn glu cys ile pro tyr asn cys leu ser asn pro glu  
 31/11  
 61/21  
 GTG GAA GTG CTG GGT GGC GAA CGC ATC GAA ACC GGT TAC ACC CCA ATC GAT ATT TCC CTG  
 val glu val leu gly gly arg ile glu thr gly tyr thr pro ile asp ile ser leu  
 91/31  
 121/41  
 TCC CTG ACC CAA TTT CTG CTG AGC GAA TTT GTG CCC GGT GCT GGC TTT GTG CTG GGC CTG  
 ser leu thr gln phe leu leu ser glu phe val pro gly ala gly phe val leu gly leu  
 151/51  
 181/61  
 GTG GAT ATC ATC TGG GGC ATT TTT GGT CCC TCC CAA TGG GAC GCC TTT CTG GTG CAA ATT  
 val asp ile ile trp gly ile phe gly pro ser gln trp asp ala phe leu val gln ile  
 211/71  
 241/81  
 GAA CAG CTG ATT AAC CAA CGC ATC GAA TTT GGT CCC TCC CAA TGG GAC GCC TTT CTG GTG CAA ATT  
 glu gln leu ile asn gln arg ile glu glu phe ala arg asn gln ala ile ser arg leu  
 271/91  
 301/101  
 GAA GGC CTG AGC AAT CTG TAC CAA ATT TAC GCC GAA TCC TTT CGC GAG TGG GAA GCC GAT  
 glu gly leu ser asn leu tyr gln ile tyr ala glu ser phe arg glu trp glu ala asp  
 331/111  
 361/121  
 CCT ACC AAT CCA GCC CTG CGC GAA GAG ATG CGC ATT CAA TTC AAT GAC ATG AAC AGC GCC  
 pro thr asn pro ala leu arg glu alu met arg ile gln phe asn asp met asn ser ala  
 391/131  
 421/141  
 CTG ACC ACC GCT ATT CCT CTG TTT GCC GTG CAA AAT TAC CAA GTG CCT CTG TCC GTG  
 leu thr thr ala ile pro leu phe ala val gln asn tyr gln val pro leu leu ser val  
 451/151  
 481/161  
 TAC GTG CAA GCT GCC AAT CTG CAT CTG TCC GTG CTG CGC GAT GTG TCC GTG TTT GGC CAA  
 tyr val gln ala ala asn leu his leu ser val leu arg asp val ser val phe gly gln  
 511/171

FIG. 12A

541/181 AGG TGG GGC TTT GAT GCC GCC ACC ATC AAT AGC CGC TAC AAT GAT CTG ACC AGG CTG ATT  
 arg trp gly phe asp ala ala thr ile asn ser arg tyr asn asp leu thr arg leu ile  
 601/201 GGC AAC TAC ACG GAT TAC GCT GTG CGC TGG TAC AAT ACC GGC CTG GAA CGC GTG TGG GGC  
 gly asn tyr thr asp tyr ala val arg trp tyr asn thr gly leu glu arg val trp gly  
 661/221 CCA GAT TCC CGC GAT TGG GTG AGG TAC AAT CAA TTT CGC CGC GAA CTG ACC CTG ACC GTG  
 pro asp ser arg asp trp val arg cyr asn phe arg arg glu thr leu thr val  
 721/241 CTC GAT ATC GTG GCT CTG TTC CCA AAT TAC GAT AGC CGC CGC TAC CCA ATT CGA ACC GTG  
 leu asp ile val ala leu phe pro asn tyr asp ser arg arg tyr pro ile arg thr val  
 781/261 TCC CAA CTG ACC CGC GAA ATT TAC ACC AAC CCA GTG CTG GAA AAT TTT GAT GGT AGC TTT  
 ser gln leu thr arg glu ile tyr thr asn pro val leu glu asn phe asp gly ser phe  
 841/281 CGC GGC TCC GCT CAG GGC ATC GAA CGC AGC ATT AGG AGC CCA CAT CTG ATG GAT ATC CTG  
 arg gly ser ala gln gly ile glu arg ser ile arg ser pro his leu met asp ile leu  
 901/301 AAC AGC ATC ACC ATC TAC ACC GAT GCT CAT AGG GGT TAC TAC TGG TCC GGC CAT CAA  
 asn ser ile thr ile tyr thr asp ala his arg gly tyr tyr trp ser gly his gln  
 961/321 ATC ATG GCT TCC CCT GTG GGC TTT TCC GGC CCA GAA TTC ACC TTT CCA CTG TAC GGC ACG  
 ile met ala ser pro pro val gly phe ser gly pro glu phe thr phe pro leu tyr gly thr  
 1021/341 ATG GGC AAT GCC GCT CCA CAA CAA CGC ATT GTG GCT CAA CTG GGT CAG GGC GTG TAC CGC  
 met gly asn ala ala pro gln gln arg ile val ala gln leu gly gln gly val tyr arg

FIG. 12B

1081/361 ACC CTG TCC TCC ACC CTG TAC CGC CGC CCT TTT AAT ATC GGC ATC AAC AAC CAG CAA CTG  
 thr leu ser ser thr leu tyr arg pro phe asn ile gly ile asn asn gln gln leu  
 1141/381 TCC GTG CTG GAC GGC ACC GAA TTT GCT TAC TCC GTG ACC TCC AAT CTG CCA TCC GCT GTA  
 ser val leu asp gly thr glu phe ala tyr gly thr ser ser asn leu pro ser ala val  
 1201/401 TAC CGC AAG AGC GGC ACC GTG GAT TCC CTG GAT GAA ATC CCA CAG AAT AAC AAC GTG  
 tyr arg lys ser gly thr val asp ser leu asp glu ile pro pro gln asn asn val  
 1261/421 CCA CCT AGG CAA GGC TTT AGC CAT CGC CTG AGC CAT GTG TCC ATG TTT CGC TCC GGC TTT  
 pro pro arg gln gly phe ser his arg leu ser his val ser met phe arg ser gly phe  
 1321/441 AGC AAT AGC AGC GTG AGC ATC ATC CGC GCT CCT ATG TTC TCC TGG ATC CAC CGC TCC GCT  
 ser asn ser ser val ser ile ile arg ala pro met phe ser trp ile his arg ser ala  
 1381/461 GAG TTC AAC AAC ATC ATC CCG TCC TCC CAA ATC ACC CAA ATC CCG CTC ACC AAG TCC ACG  
 glu phe asn asn ile ile pro ser ser gln ile thr gln ile pro leu thr lys ser thr  
 1441/481 AAC CTC GGC TCC GGC ACG TCC GTC GTC AAG GGC CCG GGC TTC ACC GGC GGC GAC ATC CTC  
 asn leu gly ser gly thr ser val val lys gly pro gly phe thr gly gly asp ile leu  
 1501/501 CGC CGC ACG TCC CCG GGC CAG ATC TCC ACC CTC CGC GTC AAC ATC ACG GCT CCG CTG AGC  
 arg arg thr ser pro gly gln ile ser thr leu arg val asn ile thr ala pro leu ser  
 1561/521 CAG CGC TAC AGG GTG CGC ATC AGA TAC GCT AGC ACG ACG AAC CTG CAA TTC CAC ACG TCC  
 gln arg tyr arg val arg ile arg tyr ala ser thr thr asn leu gln phe his thr ser

FIG. 12C

1621/541	1651/551
ATC GAC GGC AGA CCG ATC AAC CAG GGC AAC TTC AGC GCG ACG ATG AGC TCC GGG TCC AAC	
ile asp gly arg pro ile asn gln gly asn phe ser ala thr met ser ser gly ser asn	
1681/561	1711/571
CTC CAG TCC GGC TCC TTC CGC ACG GTC GGT TTC ACC ACG CCG TTC AAC TTC TCC AAC GGC	
leu gln ser gly ser phe arg thr val gly phe thr thr pro phe asn phe ser asn gly	
1741/581	1771/591
TCC TCC GTC TTC ACG CTC TCC GCT CAC GTC TTC AAC TCC GGC AAC GAG GTG TAC ATC GAC	
ser ser val phe thr leu ser ala his val phe asn ser gly asn glu val tyr ile asp	
1801/601	1831/611
CGC ATC GAG TTC GTC CCG GCC GAG GTC ACC TTC GAG CTC GAG TAG GTA	
arg ile plu phe val pro ala glu val thr phe glu leu glu AMB val	

FIG. 12D

1/1  
 ATG GAT AAC AAT CCG AAC ATC AAT GAA TGC ATT CCT tac AAT TGC CTC AGC AAC CCT GAA  
 Met asp asn asn pro asn ile asn glu cys ile pro tyr asn cys leu ser asn pro glu  
 31/11  
 61/21  
 GTG GAA GTG CTG GGT GGC GAA CGC ATC GAA ACC GGT TAC ACC CCA ATC GAT ATT TCC CTG  
 val glu val leu gly gly glu arg ile glu thr gly tyr thr pro ile asp ile ser leu  
 91/31  
 121/41  
 TCC CTG ACC CAA TTT CTG CTG AGC GAA TTT GTG CCC GGT GCT GGC TTT GTG CTG GGC CTG  
 ser leu thr gln phe leu leu ser glu phe val pro gly ala gly phe val leu gly leu  
 151/51  
 181/61  
 GTG GAT ATC ATC TGG GGC ATT TTT GGT CCC TCC CAA TGG GAC GCC TTT CTG GTG CAA ATT  
 val asp ile ile trp gly ile phe gly pro ser gln trp asp ala phe leu val gln ile  
 211/71  
 241/81  
 GAA CAG CTG ATT AAC CAA CGC ATC GAA GAA TTC GCT AGG AAC CAA GCC ATT TCC CGC CTG  
 glu gln leu ile asn gln arg ile glu glu phe ala arg asn gln ala ile ser arg leu  
 271/91  
 301/101  
 GAA GGC CTG AGC AAT CTG TAC CAA ATT TAC GCC GAA TCC TTT CGC GAG TGG GAA GCC GAT  
 glu gly leu ser asn leu tyr gln ile tyr ala glu ser phe arg glu trp glu ala asp  
 331/111  
 361/121  
 CCT ACC AAT CCA GCC CTG CGC GAA GAG ATG CGC ATT CAA TTC AAT GAC ATG AAC AGC GCC  
 pro thr asn pro ala leu arg glu alu met arg ile gln phe asn asp met asn ser ala  
 391/131  
 421/141  
 CTG ACC ACC GCT ATT CCT CTG TTT GCC GTG CAA AAT TAC CAA GTG CCT CTG CTG TCC GTG  
 leu thr thr ala ile pro leu phe ala val gln asn tyr gln val pro leu leu ser val  
 451/151  
 481/161  
 TAC GTG CAA GCT GCC AAT CTG CAT CTG TCC GTG TCC GTG TCC GTG TTT GGC CAA  
 tyr val gln ala ala asn leu his leu ser val leu arg asp val ser val phe gly gln  
 511/171

FIG. 13A



541/181	AGG TGG GGC TTT GAT GCC GCC ACC ATC AAT AGC CGC	571/191	TAC AAT GAT CTG ACC AGG CTG ATT
	arg trp gly phe asp ala thr ile asn ser arg tyr asn asp leu thr arg leu ile		
601/201	GGC AAC TAC ACG GAT TAC GCT GTG CGC TGG TAC AAT ACC GGC CTG GAA CGC GTG TGG GGC	631/211	gly asn tyr thr asp tyr ala val arg trp tyr asn thr gly leu glu arg val trp gly
	661/221	691/231	CCA GAT TCC CGC GAT TGG GTG AGG TAC AAT CAA TTT CGC CGC GAA CTG ACC CTG ACC GTG
	pro asp ser arg asp trp val arg cyr asn gln phe arg arg glu leu thr val		
721/241	CTC GAT ATC GTG GCT CTG TTC CCA AAT TAC GAT AGC CGC CGC TAC CCA ATT CGA ACC GTG	751/251	leu asp ile val ala leu phe pro asn tyr asp ser arg arg tyr pro ile arg thr val
	781/261	811/271	TCC CAA CTG ACC CGC GAA ATT TAC ACC AAC CCA GTG CTG GAA AAT TTT GAT GGT AGC TTT
	ser gln leu thr arg glu ile tyr thr asn pro val leu glu asn phe asp gly ser phe		
841/281	CGC GGC TCC GCT CAG GGC ATC GAA CGC AGC ATT AGG AGC CCA CAT CTG ATG GAT ATC CTG	871/291	arg gly ser ala gln gly ile glu arg ser ile arg ser pro his leu met asp ile leu
	901/301	931/311	AAC AGC ATC ACC ATC TAC ACC GAT GCT CAT AGG GGT TAC TAC TGG TCC GGC CAT CAA
	asn ser ile thr ile tyr thr asp ala his arg gly tyr tyr trp ser gly his gln		
961/321	ATC ATG GCT TCC CCT GTG GGC TTT TCC GGG CCA GAA TTC ACC TTT CCA CTG TAC GGC ACG	991/331	ile met ala ser pro val gly phe ser gly pro glu phe thr phe pro leu tyr gly thr
	1021/341	1051/351	ATG GGC AAT GCC GCT CCA CAA CAA CGC ATT GTG GCT CAA CTG GGT CAG GGC GTG TAC CGC
	met gly asn ala ala pro gln gln arg ile val ala gln leu gly gln val tyr arg		

FIG. 13B

# Replacement Sheet

1081/361  
 ACC CTG TCC TCC ACC CTG TAC CGC CGC CCT TTT AAT ATC GGC ATC AAC AAC CAG CAA CTG  
 thr leu ser ser thr leu tyr arg arg pro phe asn ile gly ile asn asn gln gln leu  
 1141/381  
 TCC GTG CTG GAC GGC ACC GAA TTT GCT TAC GGC ACC TCC TCC AAT CTG CCA TCC GCT GTA  
 ser val leu asp gly thr glu phe ala tyr gly thr ser ser asn leu pro ser ala val  
 1201/401  
 TAC CGC AAG AGC GGC ACC GTG GAT TCC CTG GAT GAA ATC CCA CCA CAG AAT AAC AAC GTG  
 tyr arg lys ser gly thr val asp ser leu asp glu ile pro pro gln asn asn val  
 1261/421  
 CCA CCT AGG CAA GGC TTT AGC CAT CGC CTG AGC CAT GTG TCC ATG TTT CGC TCC GGC TTT  
 pro pro arg gln gly phe ser his arg leu ser his val ser met phe arg ser gly phe  
 1321/441  
 AGC AAT AGC AGC GTG AGC ATC CGC GCT CCT ATG TTC TCC TGG ATC CAT CGC TCC GCT  
 ser asn ser ser val ser ile ile arg ala pro met phe ser trp ile his arg ser ala  
 1381/461  
 GAG TTC AAC AAC ATC ATT GCC TCC GAT AGC ATC ACC CAA ATC CCT GCC GTG AAG GGC AAC  
 glu phe asn asn ile ile ala ser asp ser ile thr gln ile pro ala val lys gly asn  
 1441/481  
 TTT CTG TTT AAT GGT TCC GTG ATT TCC GGC CCA GGC TTT ACC GGT GGC GAG CTG GTG CGC  
 phe leu phe asn gly ser val ile ser gly pro gly phe thr gly gly asp leu val arg  
 1561/521  
 CCA TCC ACC TCC ACC CGC TAC CGC GTG CGC GGC TAC ATT GAA GTG CCA ATT CAC TTC  
 pro ser thr ser thr arg tyr arg val arg arg gly tyr ile glu val pro ile his phe  
 1501/501  
 CTG AAT AGC AGC GGC AAT AAC ATT CAG AAT GTG CGC TAC GCT TCC GTG ACC CCA ATT CAC  
 leu asn ser ser gly asn asn ile gln asn val arg tyr ala ser val thr pro ile his

FIG. 13C

# Replacement Sheet

1621/541	1651/551
CTC AAC GTT AAC TGG GGC AAT TCC TCC ATT TTT TCC AAT ACC GTG CCA GCT ACC GCT ACC	
leu asn val asn trp gly asn ser ser ile phe ser asn thr val pro ala thr ala thr	
1681/561	1711/571
TCC CTG GAT AAT CTG CAA TCC AGC GAT TTT GGT TAC TTT GAA AGC GCC AAT GCT TTT ACC	
ser leu asp asn leu gln ser ser asp phe gly tyr phe glu ser ala asn ala phe thr	
1741/581	1771/591
TCC TCC CTG GGT AAT ATC GTG GGT GTG CGC AAT TTT AGC GGC ACC GCC GGC GTG ATC ATC	
ser ser leu gly asn ile val gly val arg asn phe ser gly thr ala gly val ile ile	
1801/601	1831/611
GAC CGC TTT GAA TTT ATT CCA GTG ACC GCC ACC CTC GAG TAG	
asp arg phe glu phe ile pro val thr ale thr leu glu AMB	

FIG. 13D